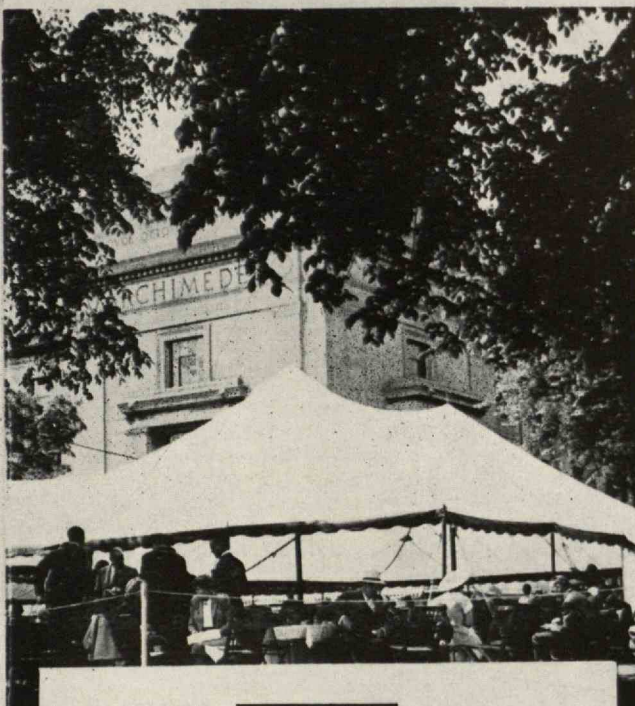


TECHNOLOGY

REVIEW

July 1952

TECHNOLOGY ALUMNI DAY June 1952



Accalaureate Service
OF THE
Class of Nineteen Hundred Fifty-Two
Massachusetts Institute of Technology

Walker Memorial
Thursday, June Five
Nineteen Hundred Fifty-Two
At Three P.M.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
GRADUATION EXERCISES
CLASS OF 1952



"There are distinctions
and similarities."

THE ALUMNI BANQUET

AT THE HOTEL STATLER, BOSTON
June 9, 1952

ROBERT H. WINTERS '33 Photograph by
National Film Board, Canada THE COVER

WHAT IS BEING EATEN? 2

The Menu for the evening, from
Fruit Cocktail to Demitasse

PRESENTATION OF CLASS GIFTS
The 25- and 50-year classes make

COMMENCEMENT LUNCHEON

FRIDAY, JUNE 6, 1952

Attend the Commencement Buffet Luncheon
with their guests in the Great Court immediately
following Graduation Exercises, Friday, June 6.

I expect that guests will join me.

Signature

YOU CAN HELP us estimate the number of persons to be served

YOU are cordially invited to be a guest of
President Kilham at an Informal Dinner for
Honorary Secretaries, Educational Counselors,
and Officers of M. I. T. Clubs at the new
Faculty Club, 90 Memorial Drive, Cambridge,
on Sunday, June 8, at 6:30 P. M.

Preceded by an informal
discussion, School
Education



B. DUDLEY

Class Table 35

Nº 543

M. I. T.
Alumni Day Ticket
BANQUET
\$7.50

(Including Courtesy and Mass. Old Age Tax)
MONDAY, JUNE 9, 1952
THE IMPERIAL
BALLROOM
HOTEL STATLER
7:00 P.M.

Please use the enclosed

MASSACHUSETTS INSTITUTE
OF
TECHNOLOGY



Commencement
and
Alumni Day
Program

M. I. T.
Alumni Day Ticket
LUNCHEON
\$2.50

(Including Courtesy and Mass. Old Age Tax)
and admission to all parties of Alumni Day
at M. I. T.

B. DUDLEY

MONDAY, JUNE 9, 1952
DU PONT COURT—12:30 P.M.
(On Cour of Role—The Radcliffe Chapel)

Nº 624

May 30—June 9, 1952

technology review

Published by MIT

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Fields of activity indicative of Vulcan Engineering experience:

ORGANIC CHEMICALS

Synthesis, recovery, and purification of methanol, ethanol, propanols, butanols; formaldehyde, acetaldehyde, furfural; acetone, methyl-ethyl ketone; formic acid, acetic acid; esters, ethers, glycols, phenols, and halogen derivatives of oxygenated organic compounds.

PETRO-CHEMICALS

Production and refining of ethylene, ethylene oxide, ethylene glycol, ethanol, and other ethylene derivatives; isopropanol and methyl-ethyl ketone; butadiene, benzene, heptane, toluene, styrene, diphenyl; and chlorinated hydrocarbons such as chloroethane, chlorobenzenes, and chlorotoluenes.

PHARMACEUTICALS

Antibiotic production; fermentation pilot plants; recovery units for solvents utilized in antibiotic purification; and special production and separation processes for biochemical operations.

LOW TEMPERATURE GAS SEPARATION

Complete units for separation of low and high purity oxygen from air; hydrocarbon separations; low temperature vessels for storage and transportation of gases.

WASTE DISPOSAL

Concentration and combustion of aqueous organic chemical waste liquors, particularly liquors containing carbohydrate and ligneous components; with provision for heat and power recovery where economically feasible.

CHEMICAL RECOVERY

Absorption, extraction, and distillation processes for organic solvent recovery; sulfur dioxide recovery from sulfite pulp mill waste liquors and stack gases; and organic vapor recovery from vent gases.

EXTRACTION AND DIFFUSION OPERATIONS

Liquid-liquid extraction processes for recovery and purification of liquid and solid organic chemicals; the Vulcan-Kennedy liquid-solid extraction process for oil-seed processing, soluble coffee production; fiber washing and other specialized countercurrent diffusional operations.



Fifty years of specialization in engineering for the Chemical Process Industries have yielded a wealth of experience and accumulated know-how which places Vulcan in a unique position to handle efficiently special problems in design and construction of chemical plants.

VULCAN PROCESS ENGINEERING



51 YEARS OF SERVICE

Inquiries concerning process problems will receive prompt attention by the engineering staff.

VULCAN ENGINEERING DIVISION

The VULCAN COPPER & SUPPLY CO., General Offices and Plant, CINCINNATI 2, OHIO
PHILADELPHIA BOSTON SAN FRANCISCO BUENOS AIRES
VICKERS VULCAN PROCESS ENGINEERING CO., LTD., MONTREAL, CANADA

ENGINEERING DIVISION • MANUFACTURING DIVISION • CONSTRUCTION DIVISION • INDUSTRIAL SUPPLY DIVISION

Metal acrobat tells time

Every time your watch ticks, its finely tempered hair-spring coils and uncoils . . . 5 times per second, 18,000 times per hour!

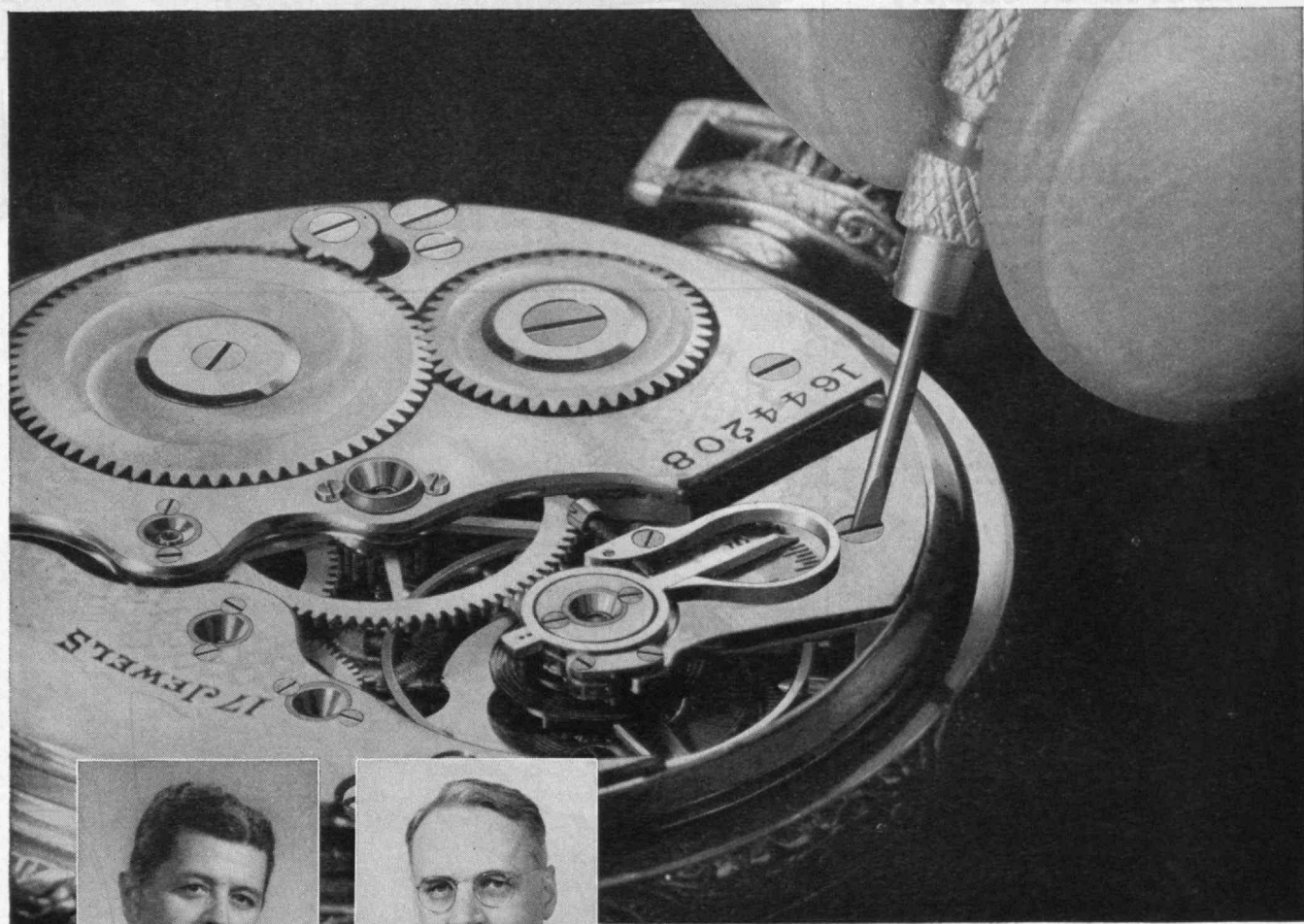
This tiny steel acrobat gains much of its dependability from modern grinding. It is formed by rolls ground by Norton and Behr-Manning abrasives. So, you see, precision grinding helps put the spring in steel.

Not only in making the hairspring of your watch but in every manufactured metal product, big or little, Norton and Behr-Manning abrasives are essential production tools. As the world's largest manufacturers of abrasives and abrasive products, Norton and Behr-Manning constantly develop better products to make all other man-made products better.

NORTON makes abrasives, grinding wheels, refractories, Norbide grain and molded products, grinding and lapping machines, non-slip floors. Norton Company, Main Office and Works, Worcester 6, Mass.

BEHR-MANNING makes abrasive paper and cloth, oilstones, abrasive specialties, Behr-Cat brand pressure-sensitive tapes. Behr-Manning Corporation, Division of Norton Company, Troy, New York.

Plants, Distributors and Dealers the world over



DIRCK J. OLTON, Behr-Manning Product and Development Engineer, perfected coated abrasive machinery for polishing aircraft engine and frame components.



DR. L. H. MILLIGAN, 29 years in Norton Research, developed vitrified diamond wheels, which excel in off-hand grinding of cemented carbide tools.

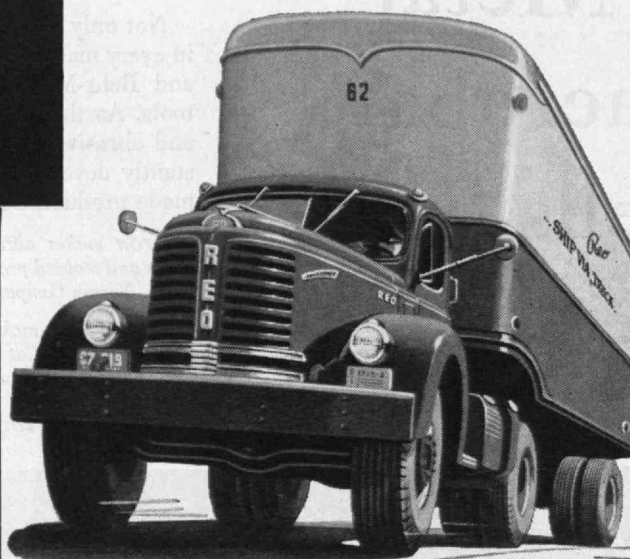


Making better products to make other products better

NORTON • BEHR-MANNING

REO

**Important
source of supply
for military
and commercial
trucks**



Reo Tractor Unit

**World's
largest builders
of power
lawn mowers**

• • •

M.I.T. MEN AT REO:

Joseph S. Sherer, Jr., '23
President and General Manager

William Walworth, '26
Chief Engineer, Truck Division

Paul H. Rosenberg, '38
Chief Engineer, Lawn Mower Division

James Thomas-Stahle, '40
Project Engineer, Lawn Mower Division

Reo Royale Power Mower



REO MOTORS, INC. TRUCKS • ENGINES • BUS CHASSIS • LAWN MOWERS • Lansing 20, Mich.

How would YOU control costs here?



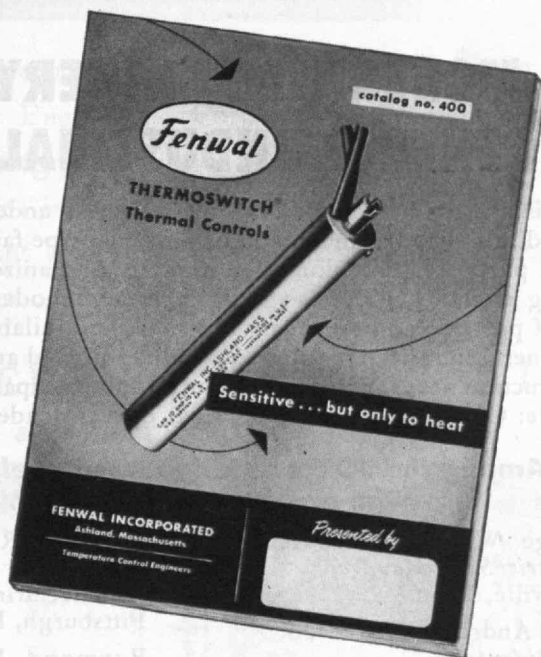
PRODUCTION LOSSES were eliminated on Fuller Brush Company assembly machines. Faulty control of viscosity of the special sealing compound, used to make handles stay put, resulted in costly breakage of expensive equipment and burned-out motors. Now, a low-cost Fenwal THERMOSWITCH thermostat prevents damage by starting the motor only when viscosity is right.



SPOILAGE FROM OVER-HEATING would prove costly to egg producers if water in Paden's Whirl-A-Way egg washer got too hot. Accurate temperature control, under extreme moisture conditions, was called for. Only a temperature-sensitive, adjustable, moisture-proofed Fenwal THERMOSWITCH thermostat installation met all the requirements, at reasonable cost.



A FENWAL THERMOSWITCH CONTROL may cut your costs, too. Its external, single-metal shell expands or contracts *instantly* with temperature changes, making or breaking enclosed electrical contacts. Compact, highly resistant to shock and vibration, Fenwal THERMOSWITCH units have solved hundreds of problems.



SEND FOR THIS NEW CATALOG for complete explanation of the unique THERMOSWITCH unit. Also ask for more detailed, illustrated discussions of the problems above. Fenwal engineers will be glad to help you solve your temperature control problems involving heat, humidity, vapor level, radiant heat, pressure and other variables. Write Fenwal, Incorporated, Temperature Control Engineers, 97 Pleasant Street, Ashland, Massachusetts.



THERMOSWITCH®

Electrical Temperature Control and Detection Devices

SENSITIVE... but only to heat

JOY *AROUND THE WORLD*



MODERN MACHINERY for MINING, OIL FIELD, GENERAL INDUSTRIAL and CONSTRUCTION USES

JOY is the world's largest manufacturer of underground mining equipment, and of vaneaxial-type fans for all purposes. The pioneer in modern mechanized mining methods, JOY also builds the most modern line of portable and stationary compressors available for general industrial, mining, quarrying, oil field and construction needs. Principal products of the company include: Continuous miners . . . Coal cutters, loaders

and shuttle cars . . . Belt, chain and shaker conveyors . . . Coal, rock and oil field drills, core drills and rotary blast-hole drills . . . Fans and blowers . . . Hoists and slushers . . . Portable and stationary air compressors, vacuum pumps and boosters . . . Oil-free air compressors . . . Oxygen generators . . . Air-operated hand-held tools . . . Shovel loaders . . . Electrical connectors . . . Miscellaneous mining equipment.

Among the JOY executive personnel, we are proud to number the following men who are graduates of the Massachusetts Institute of Technology

George Walter BERGMAN '27,
District Sales Manager
Knoxville, Tenn.

James Andrew DRAIN '26,
President
Joy Manufacturing Co., (Can.) Ltd.
Galt, Ontario, Canada

Benjamin Philbrick LANE '23,
Export Sales Manager
Export Department
New York, N.Y.

John LAWRENCE '32, *Vice President*
Manufacturing
Pittsburgh, Pa.

Raymond MANCHA '26, *Vice President*
Ventilating Equipment
Pittsburgh, Pa.

Jonathan A. NOYES '12, *District Sales Manager*
Dallas, Texas

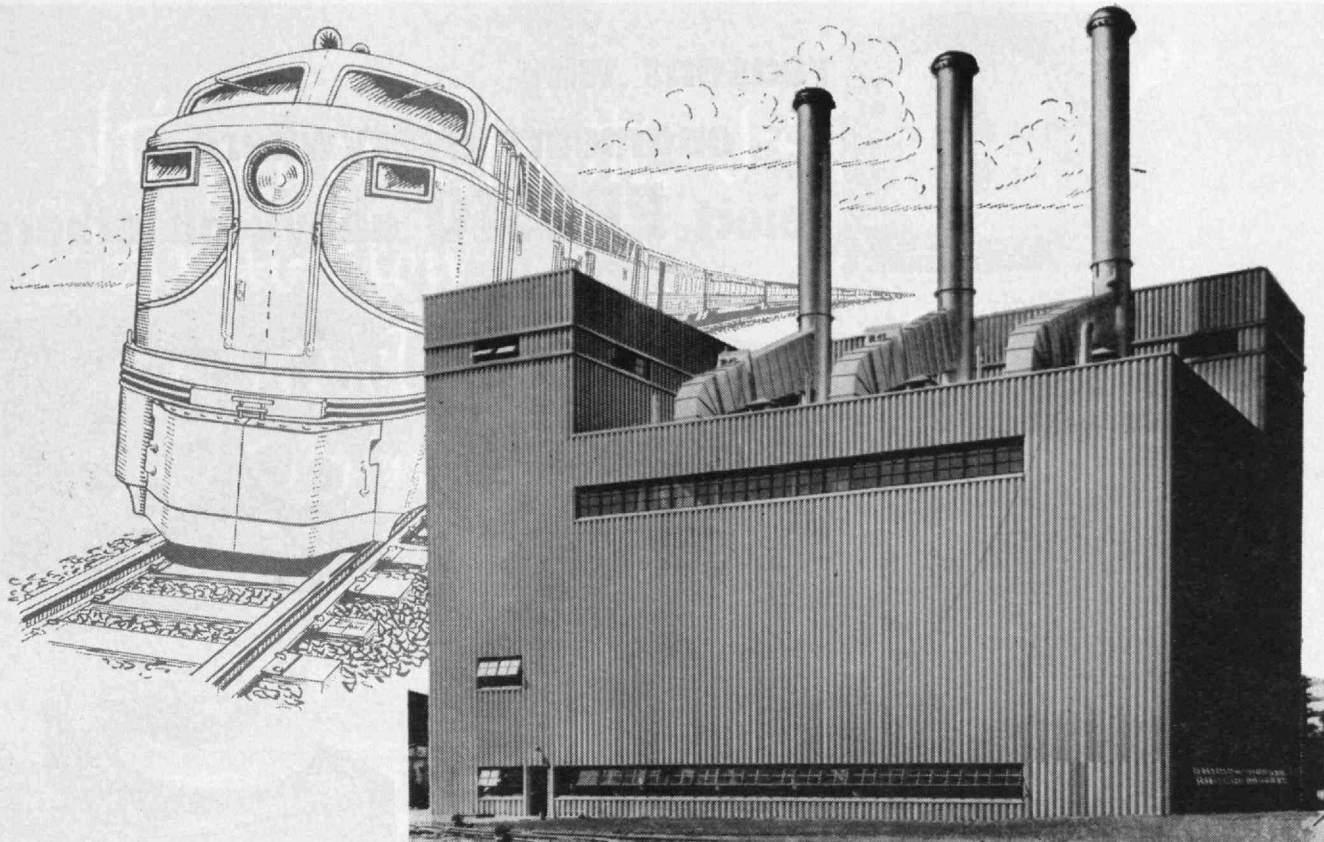
Robert Wesley SCOTT '23, *Product Manager*
Air Compressors
Michigan City, Ind.

*Consult a
Joy Engineer*



JOY MANUFACTURING COMPANY

General Offices: HENRY W. OLIVER BUILDING • PITTSBURGH 22, PA.
OFFICES AND DISTRIBUTORS IN THE PRINCIPAL CITIES OF THE WORLD



Steam generating plant of Fairbanks, Morse & Co., Beloit, Wisconsin.

S TEAM POWER TO BUILD DIESEL POWER

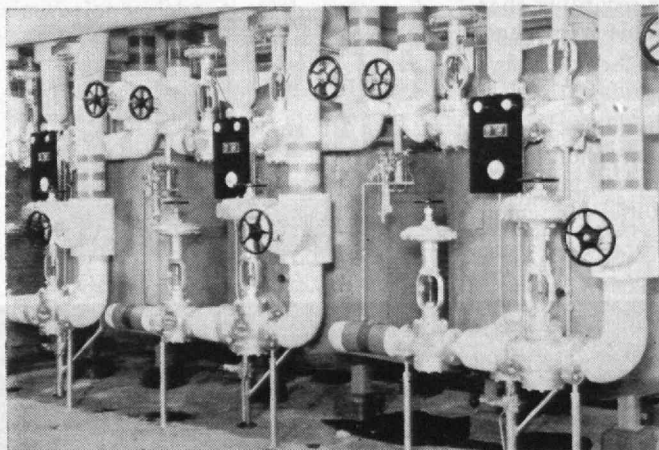
World famous diesel locomotive manufacturers, Fairbanks, Morse & Co., employed Stone & Webster Engineering Corporation to design and construct a new steam generating plant.



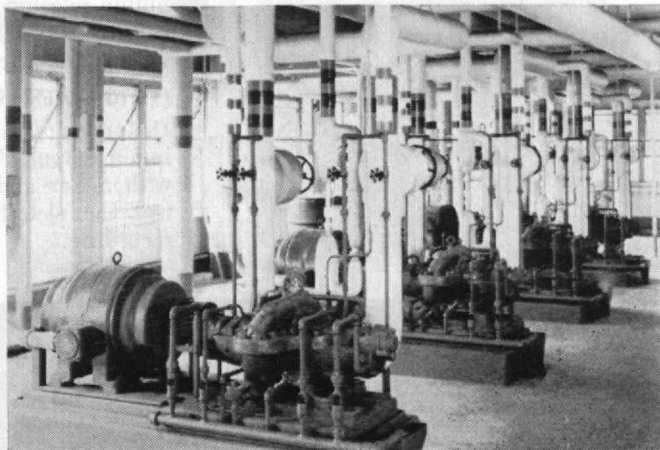
Designed for rapid changes in steam demand, up to the heaviest processing loads, the new plant yields substantial fuel savings of \$600. to \$650. per day, and provides complete continuity of service.

STONE & WEBSTER ENGINEERING CORPORATION

A SUBSIDIARY of STONE & WEBSTER, INC.



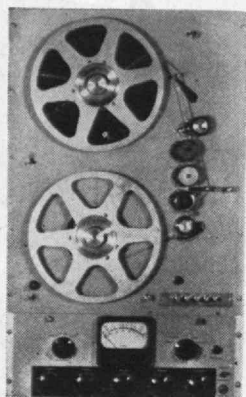
Completeness of instrumentation throughout is indicated by this view of the water treatment system.



Boiler feed pumps and facilities are of unusual capacity because of the heavy steam demand.

8

reasons why engineers everywhere select **PRESTO** above all others



TAPE RECORDERS

PRESTO rack mounted RC-10/24

Three-motor drive eliminates take-up clutch. Solenoid type brakes operated by push button. Three magnetic heads. Accommodates 10½" reel.

PRESTO portable RC-10/14

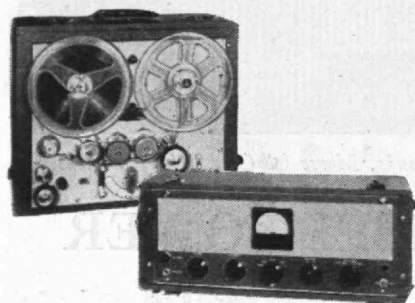
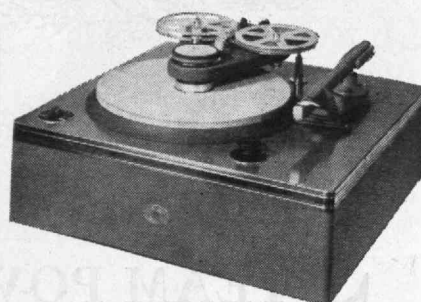
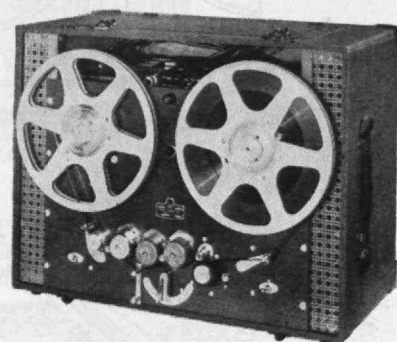
High fidelity tape recorder with rotary type selector control. Speeds of 7½" and 15" per sec.

PRESTO portable PT-920

The top buy in portable tape recorders, 10 watt amplifier, two speakers and amplifier in one case. 3 motors, no take-up clutch.

PRESTO tape reproducer TL-10

New and improved. Permits tape playback on 16" turntable at 7½" or 15"/sec. Plugs into standard speech input equipment.



DISC RECORDERS

PRESTO studio console 8 D-G

Direct gear drive, twin motors, 8 feed pitches in each direction. Radial cantilevered overhead with 1-D cutting head.

PRESTO portable 6-N

Low mechanical noise level; excellent accuracy at 78 and 33⅓ rpm; 1-D cutting head. Microgroove attachment available.

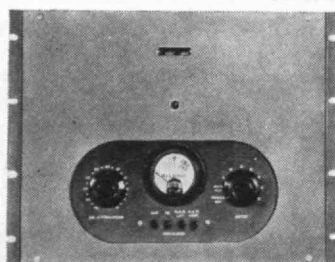
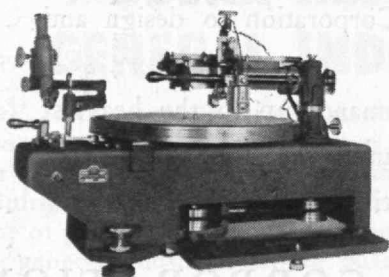
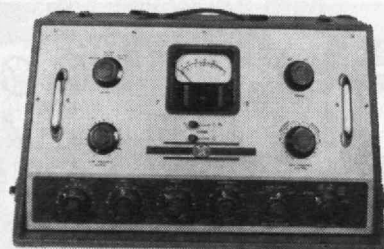
RECORDING AMPLIFIERS

PRESTO 92-B

For rack mounting, 60 watts, push button selector for recording characteristics. Removable front panel, for easy maintenance.

PRESTO portable 90-B

Distortion of less than 1.5% at maximum output, 3 microphone input with mixer and master gain control. Complete facilities for remote recording.



G. J. SALIBA '27

PRESTO RECORDING CORPORATION
PARAMUS, NEW JERSEY

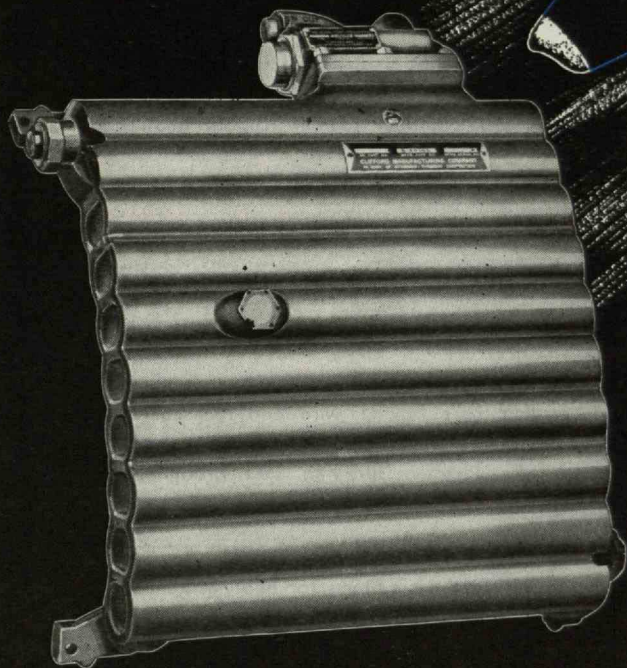
C. A. SANBORN '27

Export Division: 25 Warren Street, New York 7, N. Y.

Canadian Division: Wólter P. Downs, Ltd., Dominion Square Bldg., Montreal

WORLD'S LARGEST MANUFACTURER OF PRECISION RECORDING EQUIPMENT AND DISCS

It's powered by the J-47 Axial-Flow Turbojet Engine



This modern jet plane gets its speed and power from the General Electric J-47 axial-flow turbojet engine, which has a basic thrust of 5200 lb. Many of these engines have their oil cooled by Feather-Weight Oil Coolers, tested at 1000 lb. pressure.

Another Feather-Weight...

DESIGNED TO COOL
A J-47's OIL

Here's another addition to the roster of famous jet-propelled and conventional aircraft which rely on the superior weight-strength ratio and accurate pretesting of *Feather-Weight* All-Aluminum Oil Coolers.

The increasing reliance on *Feather-Weight* Oil Coolers is due to Clifford's patented method of brazing aluminum in thin sections and to the accurate performance ratings predicted by the Clifford wind tunnel laboratory, largest and most modern in the aeronautical heat exchanger industry. Inquiries about *Feather-Weight* All-Aluminum Oil Coolers will be handled promptly.

CLIFFORD MANUFACTURING COMPANY,
142 GROVE ST., WALTHAM 54, MASS. Division
of Standard-Thomson Corporation. Offices in New York,
Detroit, Chicago, Los Angeles.



CLIFFORD



ALL-ALUMINUM OIL COOLERS
FOR AIRCRAFT ENGINES

HYDRAULICALLY - FORMED BELLOWS
AND BELLOWS ASSEMBLIES



Instrument
Bellows



Aircraft
Bellows
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Bellows
Seal
Assembly

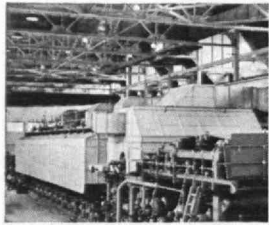


All-Aluminum
Cylindrical
Oil Cooler

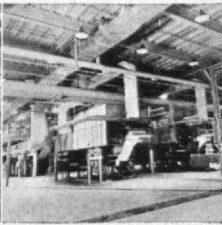


All-Aluminum
Oval Oil
Cooler

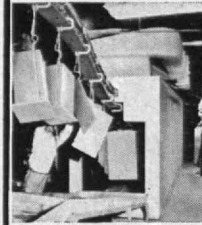
For Nearly 30 Years The Leading Builders Of



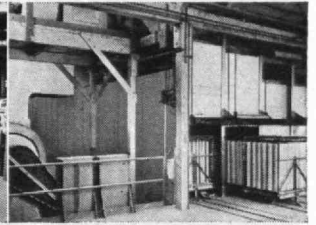
Pulp and Paper



Textiles



Metal Finishing



General Drying

INDUSTRIAL AIR PROCESSING EQUIPMENT

AIR HEATERS	Direct, Indirect and Combination Types, Oil, Gas and Steam Fired	For use wherever a supply of hot circulated air is required—for industrial ovens, drying processes, building or space heating, Make-Up Air Systems, heat treating, foundry cupola heating, etc. Delivery temperatures up to 1000 deg. F.
INDUSTRIAL DRYERS	Batch and Continuous Types for Web or Particle Drying Using Any Source of Heat	In wide use for drying processes in such industries as ceramics, chemicals, drugs, pulp and paper, plastics, rubber, textiles, cork products, insulating materials, thread, floor covering, wall board and many others.
INDUSTRIAL OVENS	Batch and Conveyor Types for Temperatures Up To 1000 deg. F. For Baking, Curing, Heat Treating	Insulated panel constructed ovens for such operations as metal finishing and decorating, core baking, wire and rod baking, heat treating castings, etc. Complete paint, lacquer, enamel, japan and porcelain baking systems covering spraying, rust proofing, drying, cooling apparatus.
HEATING and VENTILATING, AIR CONDITIONING	Industrial Hoods, Air Supply and Exhaust, Duct Work and Control Apparatus	Individually designed air systems for heating, ventilating and conditioning all departments of paper, textile and similar plants. All necessary apparatus for air make-up, supply, distribution and exhaust to control temperature and humidity for improving working and operating conditions, removing fog and vapor, preventing damage from condensation, cooling motors, generators and similar functions.
WASTE HEAT RECOVERY	Heat Interchanges and Economizers for Waste Vapor and Gases	For full utilization of heat units in waste vapor or gases to provide reclaimed heat for buildings, water, etc. to reduce steam and fuel costs.

ROSS clients get the benefit of nearly 30 years of experience, complete testing facilities and the most modern and efficient manufacturing equipment. Catalog on request.

J. O. ROSS ENGINEERING CORPORATION

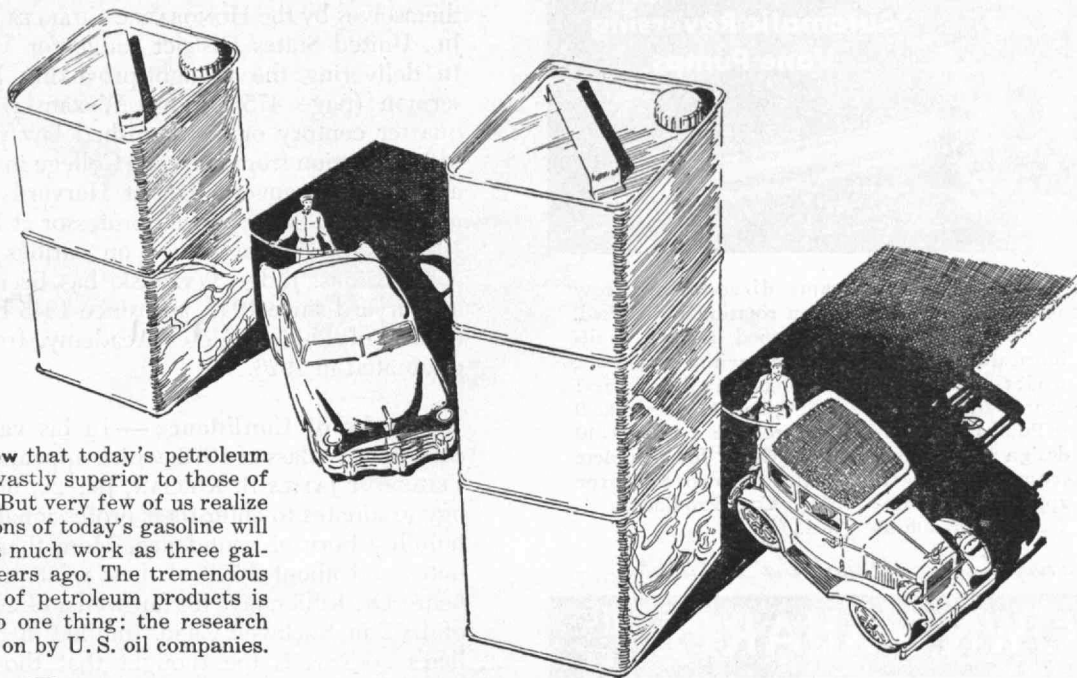
Saxton W. Fletcher '18 — President

DESIGNERS AND MANUFACTURERS OF AIR PROCESSING SYSTEMS

Main Office—444 Madison Avenue, New York 22, N. Y.

201 N. Wells Street, CHICAGO-6 • 79 Milk Street, BOSTON-9 • 9225 Grand River Avenue, DETROIT-4 • 600 St. Paul Avenue, LOS ANGELES-17
ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

Why 2 gallons of the gasoline you buy today equal 3 gallons you bought in 1926



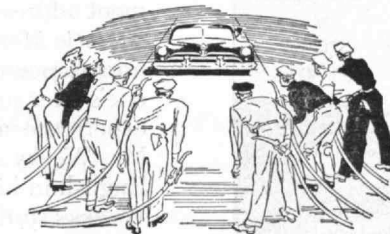
1. We all know that today's petroleum products are vastly superior to those of 26 years ago. But very few of us realize that two gallons of today's gasoline will actually do as much work as three gallons did 26 years ago. The tremendous improvement of petroleum products is largely due to one thing: the research being carried on by U. S. oil companies.



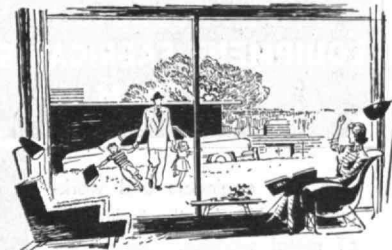
2. In February Union Oil opened its new \$8 million Research Center near Los Angeles. Here a staff of 300 will work on product improvement as well as petrochemical research—the development of the base chemicals for such products as synthetic rubber, detergents and plastics.



3. Over the last 61 years the money we have spent per year on research has risen steadily from \$3 thousand to over \$3 million. Why? Not because we like to spend money or because someone told us we must. But to keep ahead of our competitors—all of whom are working on new and improved products too.



4. These 30,000 U. S. oil companies—big and little—are all competing with each other. Consequently, the incentive to develop new and improved products or techniques is constantly with all of us. This incentive is the driving force behind our whole free, competitive American system.



5. For it encourages the introduction of new and better products to a greater degree than could ever exist under a governmental monopoly.* As a result, the American people have the highest standard of living the human race has ever known.

*As long, that is, as the government doesn't tax industry to the point where there's no incentive left for research and development.

UNION OIL COMPANY OF CALIFORNIA

INCORPORATED IN CALIFORNIA, OCTOBER 17, 1890

This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Building, Los Angeles 17, Calif.

Manufacturers of Royal Triton, the amazing purple motor oil

Adaptable Pumps for "BUILT-IN" Use



Here's your ready-made answer to machine design problems involving individual lubrication of machine units. Brown & Sharpe Automatic Reversing Vane Pumps offer simplified design that assures easy accommodation to varied applications. Automatic feature maintains

same direction of flow when rotation is reversed.

Stripped models available both with and without housings in three sizes: 2½, 5, and 11½ gpm at 0 lbs. pressure and at 1140 rpm. Write for complete catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

We urge buying through the Distributor

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METAL PRODUCTS INC
EQUIPMENT FABRICATORS
WALTHAM
MASS U S A**

Artisan engineers and workmen are skilled in the techniques of metal working. Their combined knowledge and experience in engineering and building special equipment and machinery have been of value to many leading mechanical and process industries.

Write for a copy of "Process Equipment". For a qualified engineer to call to discuss your equipment requirements, telephone Waltham 5-6800 or write to: — James Donovan, '28, General Manager.

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SUPERIOR
EQUIPMENT

AUTOCLAVES
CONDENSERS AND
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EQUIPMENT
EXPERIMENTAL
EQUIPMENT
EVAPORATORS
MIXERS
JACKETED KETTLES
PIPE, PIPE COILS,
AND BENDS
REACTORS
SPECIAL MACHINERY
TANKS

Artisan METAL PRODUCTS, INC.

73 POND STREET, WALTHAM, (Boston 54) Mass.

THE TABULAR VIEW

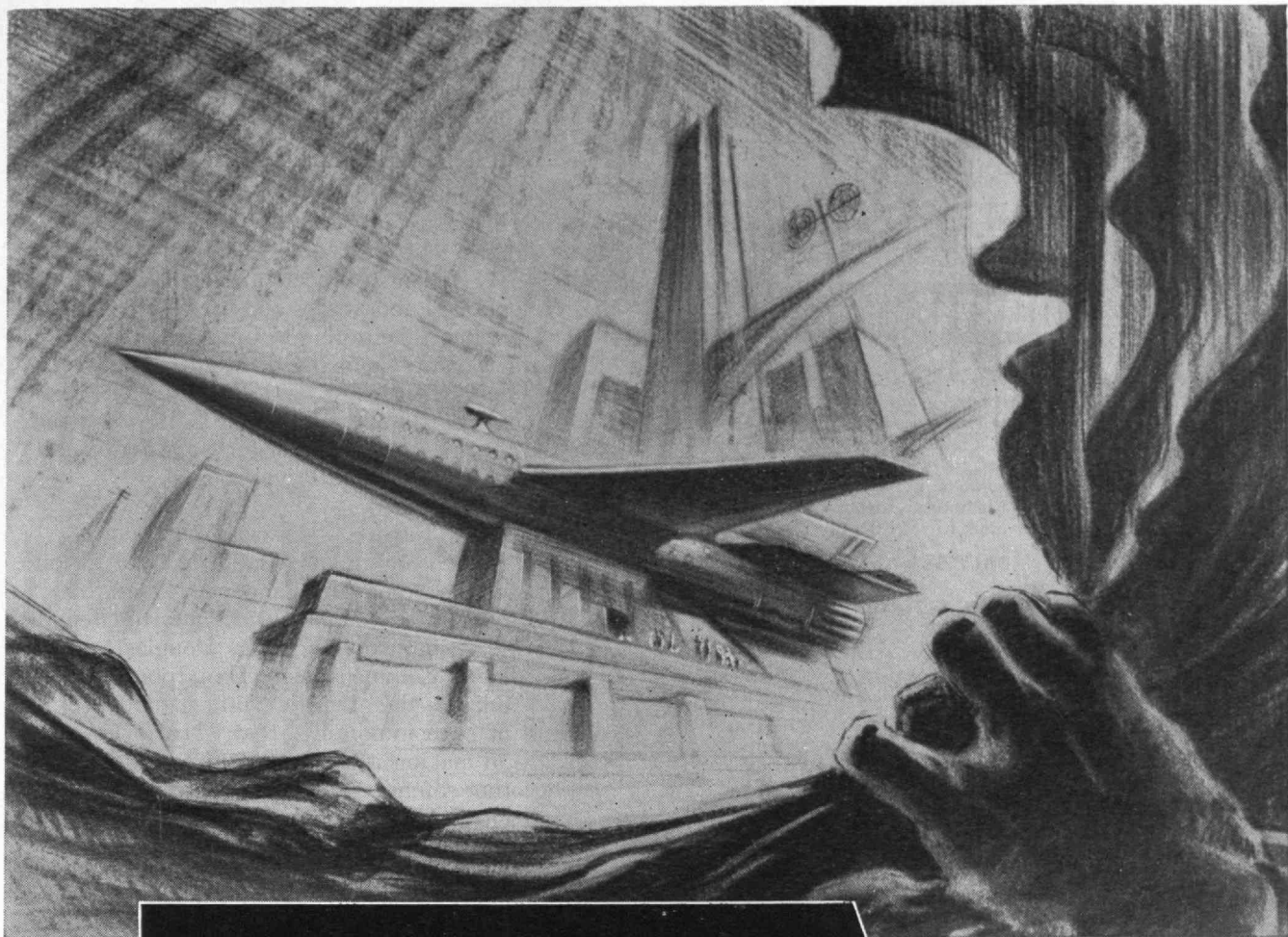
By What Measure? — In building up dynamic ideals for the world of today, members of the Class of 1952 were urged to seek deeper significance within themselves by the HONORABLE CHARLES E. WYZANSKI, JR., United States District Judge for Massachusetts. In delivering the thought-provoking baccalaureate sermon (page 475), Judge Wyzanski celebrated a quarter century of distinguished law practice since his graduation from Harvard College in 1927. He was a lecturer in government at Harvard in 1943, and again since 1949, a visiting professor at M.I.T. during 1948-1950, and has served on various international commissions. Judge Wyzanski has been an overseer at Harvard since 1943, and since 1945 he has been a trustee of Philips Exeter Academy, from which he graduated in 1923.

Worthy of Confidence — In his valedictory address to the Class of 1952, which appears on page 478, PRESIDENT JAMES R. KILLIAN, JR., '26, urges Technology graduates to enter their professional life with the humility born of confidence. More than 1,000 graduates and about 3,500 of their relatives and friends heard Dr. Killian give his farewell address to the Class of 1952 in Rockwell Cage. Implied in President Killian's address is the thought that those who have benefited from superior training have obligations to society which, in the proper fulfillment, entitle them to be worthy of confidence.

Education and Chance — That chance plays a great role in one's life is recognized in the commencement address by EDWARD A. WEEKS, JR., editor of the *Atlantic Monthly*, who takes occasion to point out the importance which certain college studies may have in one's later success. Drawing largely upon his personal experience as mechanical engineer turned literator, Mr. Weeks stresses the importance of command of English in his article, which begins on page 479. Mr. Weeks's studies at Cornell were interrupted by World War I, but he received the B.S. degree from Harvard in 1922, took graduate work at Cambridge University the following year, and has Litt.D. degrees from Northeastern University, Lake Forest University, Williams College, and the University of Alabama. He has been overseer at Harvard College since 1945 and trustee of Wellesley College since 1947. He has been associated with the *Atlantic Monthly* since 1924, and is the ninth editor of that distinguished journal.

Canada and the United States — Recent industrial progress in Canada and the co-operation with which our northern neighbor works with the United States in achieving common goals are outlined by one who has lived and worked on both sides of the border. In delivering the Alumni Day Banquet Address, which appears on page 482, the HONORABLE ROBERT H. WINTERS, '33, Minister of Resources and Development, spoke before an audience of approximately

(Concluded on page 460)



BEYOND THE HORIZON....

Higher and higher the speeds; greater and greater the stresses.

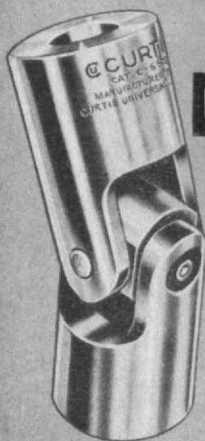
To match needs which are still beyond the horizon, the engineer is increasingly urging the metallurgist to supply new materials.

The more efficient engines of today rely upon the use of temperature-resisting molybdenum-containing alloys; the jet engines of the future, with still greater stresses and higher temperatures, must rely even more upon Molybdenum.

Climax furnishes authoritative engineering data on Molybdenum applications.

Climax Molybdenum Company
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The Most Economical



Made of fewer parts, each part of specially selected steel, individually hardened for a specific purpose — they last longer.

CURTIS UNIVERSAL JOINTS

Not only do they give efficient service for a longer period of time but they are easier to install, quicker to assemble and disassemble. 14 standard sizes to choose from—with either solid or bored hubs. Facilities immediately available to produce specials to specifications.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability — 14 sizes always in stock.

Simplicity — fewer parts, simpler construction.

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CURTIS UNIVERSAL JOINT CO., INC.

8 Birnie Ave. Springfield, Mass.
Ralph E. Curtis, '15 I. H. Small, '28



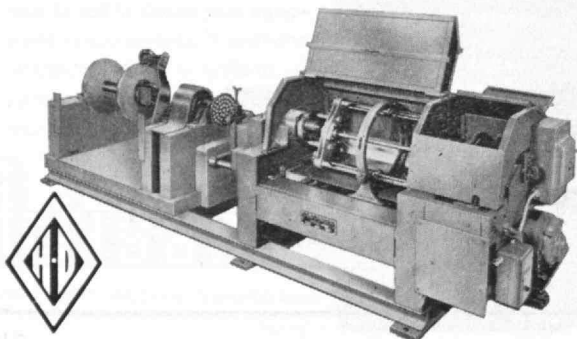
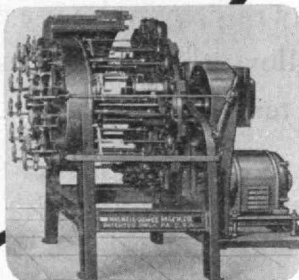
A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

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Expanding application of twisting principles to the production of many products is reflected by an ever-increasing demand for both H-D standard equipment as well as machines especially engineered to solve varied production problems. Week after week surprising new uses are developed through the close co-operation of our engineering department with manufacturers in many fields.

Write today for our New Technical Bulletins. Tell us what you make—or contemplate making and your inquiry will receive prompt attention.

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HASKELL-DAWES
MACHINE CO., INC.
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PHILADELPHIA 34, PA.



THE TABULAR VIEW (Concluded from page 458)

1,000. Mr. Winters obtained the B.A. degree from Mt. Allison University in Sackville, New Brunswick, in 1931 and the S.M. degree in Electrical Engineering from M.I.T. He began his career as engineer with the Bell Telephone Laboratories and the New York Telephone Company. Returning to Canada, he joined the Northern Electric Company of Montreal and subsequently became manager of the Industrial Shipping Company, Ltd. He entered politics in 1945 and since 1948 has been cabinet minister for Nova Scotia and a member of the Canadian Privy Council.

Facing the Future — LEWIS W. DOUGLAS, '17, formerly United States Ambassador to Great Britain, was to have delivered the commencement address to the members of the Class of 1952. Unfortunately, illness made it impossible for Mr. Douglas to be in Cambridge on Commencement Day, June 6. His address, "Facing the Future with Confidence," is deemed of such importance that The Review takes pleasure in making it available to '52 graduates — as well as other Alumni — through the pages of the July issue (page 486). Receiving the B.A. degree from Amherst College in 1916, Mr. Douglas was also a student at M.I.T. He is the recipient of LL.D. degrees from Amherst College, Harvard University, Queens College, Princeton, Brown, New York, and Wesleyan Universities, and the University of Arizona. In England, Leeds conferred upon him the LL.D., and from Oxford he received the D.C.L. degree.

The Review is not published during the summer months following July. This issue, therefore, concludes Volume 54. Number 1 of Volume 55 will be published on October 27 and dated November. Readers who bind their copies are reminded that if they possess nine issues of Volume 54, their files are complete. An index to the volume will be ready on September 15 and will be supplied post free upon request.



Ward Baking Company distribution plant
Merkle & Elberth, Architects

We have recently completed four new distribution plants in the New York Metropolitan area for the Ward Baking Company.

W. J. BARNEY CORPORATION

Founded 1917

101 Park Avenue, New York

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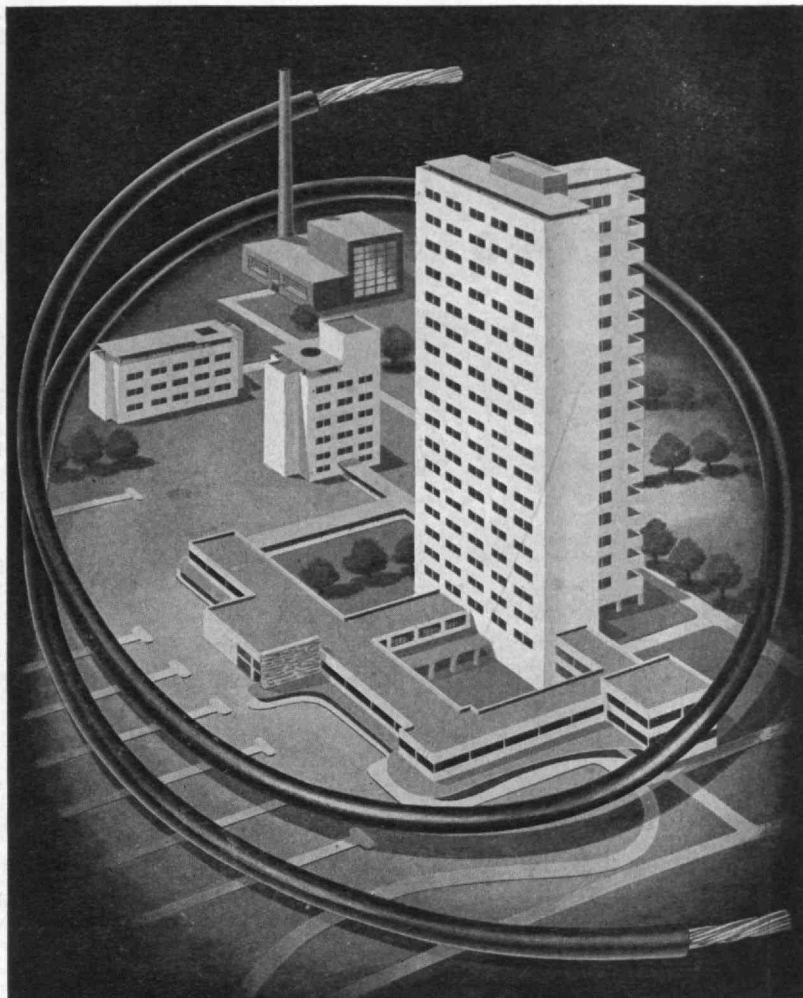
Alfred T. Glassett, '20, President

WIRE BY PHELPS DODGE MEANS WIRED FOR LIFE!

**Selection of
Highest-Quality Wire and
Cable is still the Short Route
to Customer Confidence!**

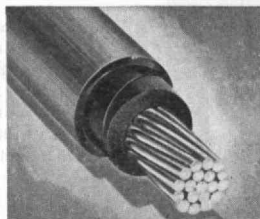
Specifying Habirshaw wire and cable, made by Phelps Dodge Copper Products Corporation, assures highest standard of electrical stability and dielectric strength. It's a *long step* toward complete owner satisfaction.

For over 65 years, throughout the entire building industry, these famous products have spelled *integrity* and *up-to-dateness* of design, materials and workmanship... dependable electrical service for the life of the building.

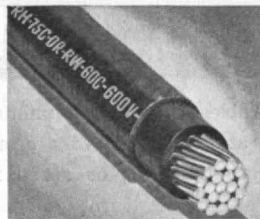


"NERVE SYSTEM" FOR A MODERN HOSPITAL

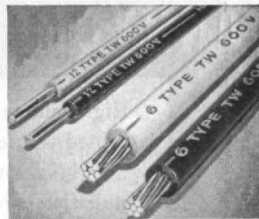
Every electrical "nerve" in a modern medical center—from heavy power cable that introduces high voltage, to branch circuit wiring for lights, equipment, and appliances—can be supplied by this one dependable manufacturer. Means undivided product responsibility—every wire of highest quality. Complete range of sizes and types are available to meet specific operating conditions.



- Primary—varnished cambric insulated lead sheathed cable to bring power into the building.



- Heat and moisture resistant, rubber-insulated, braid-covered cable for feeders, to distribution points.



- Small diameter moisture-resistant Habirdure thermoplastic insulated wire for branch circuits.

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Manufacturers of the Famous "Habirshaw" Wire and Cable

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Boston, Mass.



SIMPLEX ANHIDREX XX CABLES

High-voltage cables that assure uninterrupted service at 2,000-17,000 volts operation in underground, duct, or aerial installations.

Insulated with Anhydrex XX; first high-voltage insulation combining all the properties necessary for trouble-free operation when exposed to water or moisture, heat, ozone and other deteriorating agents.

Jacketed with neoprene to provide steadfast protection against rough handling, soil acids and alkalies, oils, grease, chemicals and flame.

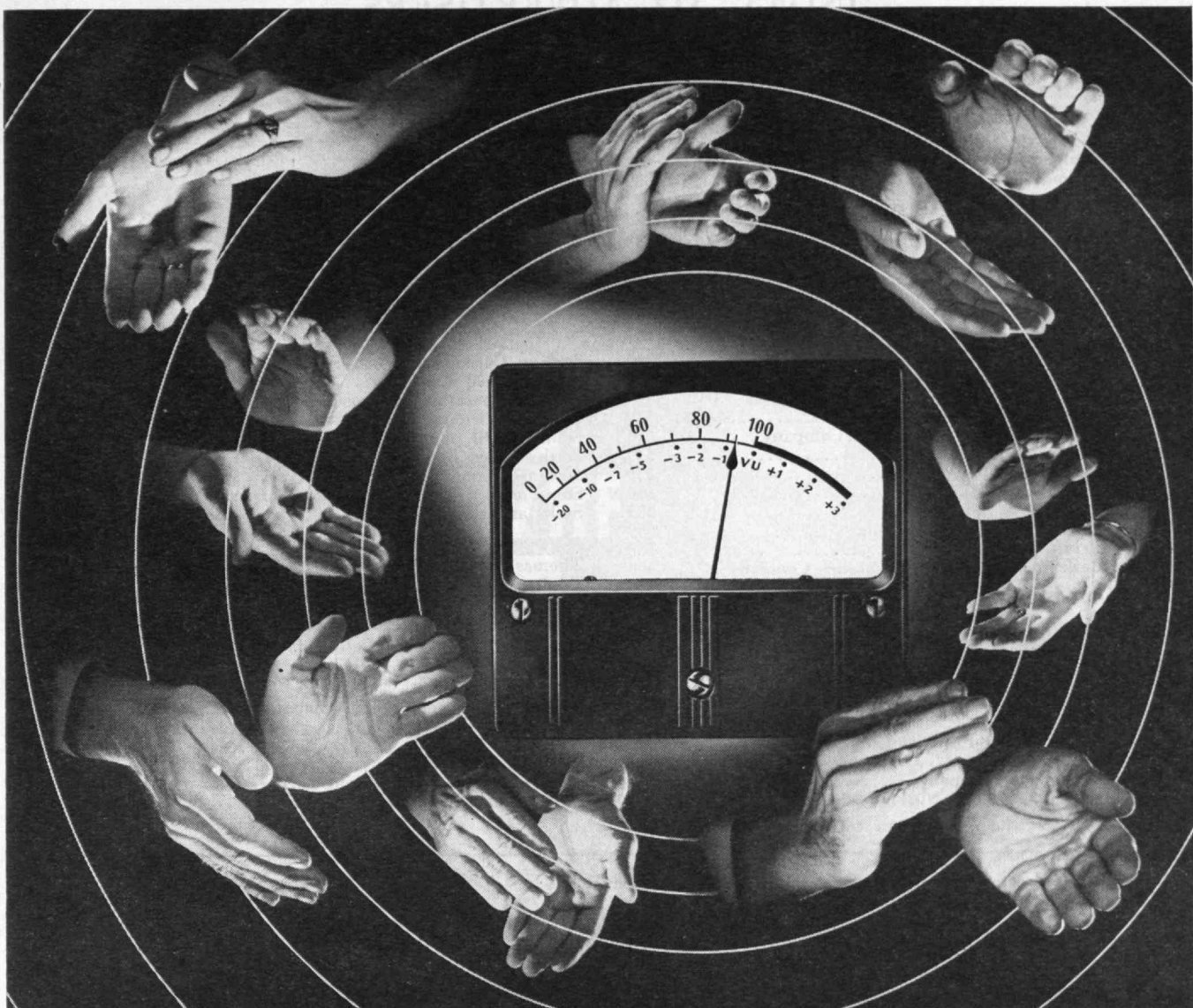
SIMPLEX WIRE & CABLE CO.
79 SIDNEY STREET, CAMBRIDGE 39, MASS.

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The talent scout that's *always right!*

Simple enough in the old days to determine whether an audience approved a performer, or just sat on their hands. But picking a winner from among several acts is a matter far beyond the capabilities of the human ear.

But the selection is now easily and instantly made . . . thanks to the instrument popularly known as the applause meter . . . but known throughout the communications field as the WESTON Volume Level indicator.

This meter accurately measures the sound level of audience applause as *picked up* by sensitive microphones in the theatre. Little applause, and the pointer moves only a short distance. Larger volume of applause and the pointer moves 'way

up the scale. Thus, with an accurate measurement of audience response for each performer, there is no doubt as to the winner.

Here is another instance where the solution to a perplexing measurement problem was supplied by a WESTON instrument developed years before to monitor and control radio transmission. It illustrates why it always pays to check *first* with the instrument leader . . . whether the measurement, recording or control problem involves sound, light, speeds, moisture, electricity, temperatures or pressures. WESTON Electrical Instrument Corporation, 617 Frelinghuysen Ave., Newark 5, New Jersey . . . *manufacturers of Weston and TAG instruments.*



WESTON *Instruments*

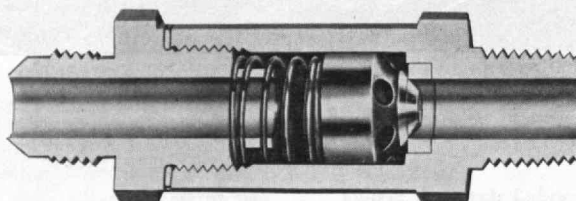
... TO INDICATE — RECORD — CONTROL

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KOHLER



PRECISION CONTROLS

Aircraft, Industrial, Automotive

Kohler Co. is a leading supplier of precision controls to manufacturers of jet engines, military, commercial and private aircraft, agricultural and industrial test equipment, Diesel engines, automobiles, trucks, and tractors.

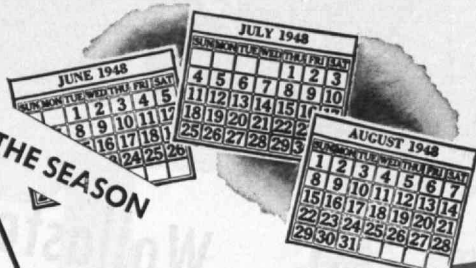
Facilities for forging, die casting, machining, anodizing, are maintained all in one plant—with an experienced organization skilled in precision workmanship.

Our engineers will develop, for volume production, valves and fittings and kindred equipment to specification.

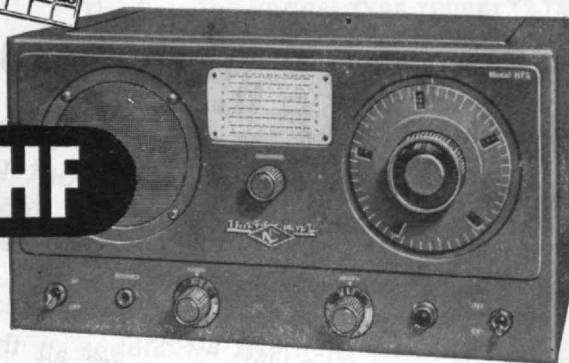
Kohler Co., Kohler, Wisconsin

KOHLER OF KOHLER

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EXPLORE VHF



HERE IS THE SET

the national HFS

Enjoy amazing VHF reception made possible by such summer phenomena as temperature inversion, sporadic E and F₂! Get a National HFS and take it with you on vacation and weekends. Check MUF and be ready for those 6-meter DX contacts while pleasure-bent high in the hills! Designed for mobile and portable use, as well as fixed operation, the HFS is ideal for both your car and your shack!



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Operation assures optimum signal-to-noise ratio.
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- **RECEIVER OR CONVERTER!**
Makes features of connected receiver usable on VHF!

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(less power supply)
Price slightly higher west of the Rockies.

See your National dealer listed in the classified section of your 'phone book

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RUBBER AGE

Chemical Engineering
IN TWO PARTS
PART I

h Year
**PAINT, OIL
CHEMICAL REV**

Chemical

May 3, 1952

Price 55 cents

Story of the Month:—Wollastonite

The nation's leading business papers and technical publications have made front page news of the story of Cabot Mineral's introduction to industry of a new nonmetallic mineral called wollastonite.

The facts about the Willsboro, New York project are all there, together with a description and pictures of the material, but as our news correspondents put it, "You haven't seen a thing until you've examined an actual sample of wollastonite".

Wollastonite is a calcium metasilicate of remarkable whiteness, brilliancy and almost theoretical purity, and it is being offered to industry in continuous commercial supply for the first time in history. The press has emphasized the extraordinary properties of this new mineral — its remarkable physical and chemical uniformity and its unique fibrous nature. In special fiber grinds, the fiber length of wollastonite may be as much as 13 to 15 times the diameter. And wollastonite is the only white, wholly fibrous mineral in the mineral filler price range. The supply is abundant — conservatively estimated at more than 15 million tons — and four commercial grades, including a fiber grind, are already available for shipment from Willsboro.

Despite its newness, we already know that wollastonite is ideal for use in ceramic insulators, wall tile, porcelain fixtures, as an extender in paints, and as a reinforcing fiber in plastics and cements. We do not know the number of potential applications in the offing for wollastonite, and we are conducting extensive research in our own laboratories and in certain college and industrial laboratories throughout the nation in order to gain still further knowledge about the basic properties of wollastonite and its performance for additional specific uses in other fields.

Why not investigate the possibility of using wollastonite in your own product development? We shall be happy to have a salesman call, or you may send for further information and for samples by writing to

CABOT MINERALS
A Division of Cabot Carbon Company
77 Franklin Street, Boston 10, Mass.

CABOT

**CHEMICAL AND ENGINEERING
NEWS**

PAINT JOURNAL

**PERFORMANCE
VERSATILITY OF
R-SPEED**

**BUSINESS
WEEK**

**CORN
FLAKES**

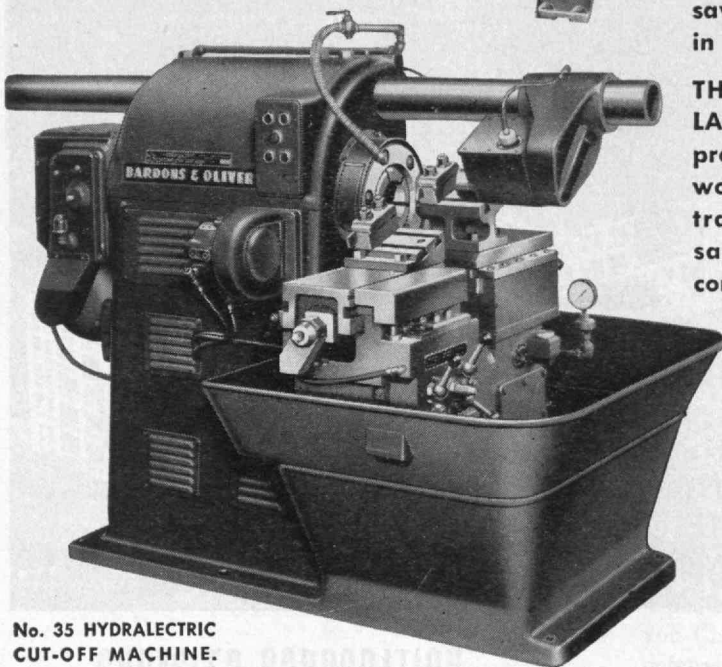
BARDONS & OLIVER Turret Lathes

and Cutting-Off Machines

are *Outstanding*
FOR MAXIMUM PRODUCTION!



**No. 2 GEARED ELECTRIC
TURRET LATHE with
Electric Remote Control.**



**No. 35 HYDRAELECTRIC
CUT-OFF MACHINE.**

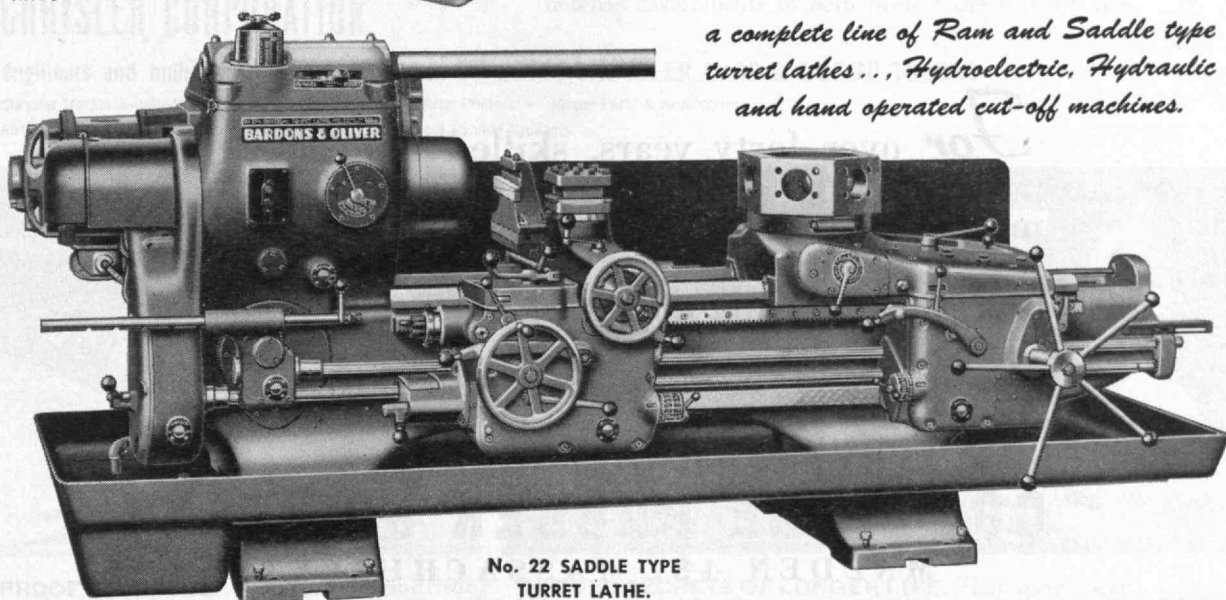
The five sizes of RAM TYPE TURRET LATHES cover bar work from five-eighths inch diameter to forgings and castings up to fifteen inches. Many time and labor saving features make each an outstanding producer in its range of work.

THE NO. 21 AND NO. 22 SADDLE TYPE TURRET LATHES are exceedingly powerful and rigid for fast production on larger and heavier bar and chucking work. The hydraulic speed preselector, the power traverse to both the cross slide carriage and the saddle, the hydraulic collet chuck and bar feed in combination with many other eminent features make these machines leaders for fast production.

THE SIX SIZES OF CUT-OFF MACHINES range from 2" to 14½" and are built as automatic, semi-automatic and hand operated. Each size in this comprehensive line is outstanding for maximum productive capacity and remarkable ease of operation.

If your production problem involves turret lathes or cut-off machines, send us blue prints of your work and our engineers will submit a proposal.

*a complete line of Ram and Saddle type
turret lathes . . . Hydroelectric, Hydraulic
and hand operated cut-off machines.*



**No. 22 SADDLE TYPE
TURRET LATHE.**

BARDONS & OLIVER, INC.

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• CLEVELAND 13, OHIO

Where **QUALITY** starts with a "C" — for **CONVERSE**



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SOUND TEST FOR SOUNDER CARS. Even a noise which might escape the human ear could be a signal that something is not quite right in a car's construction. That's why Chrysler Corporation engineers use sensitive recording instruments to inspect

each new model as it is developed. Cars are test-driven at varying speeds in the laboratory, as you see here, and other tests are made on the road. These tests help engineers eliminate potential trouble spots *in advance*, giving you more valuable cars and trucks.

WHAT MAKES A CAR WORTH MORE TO YOU?

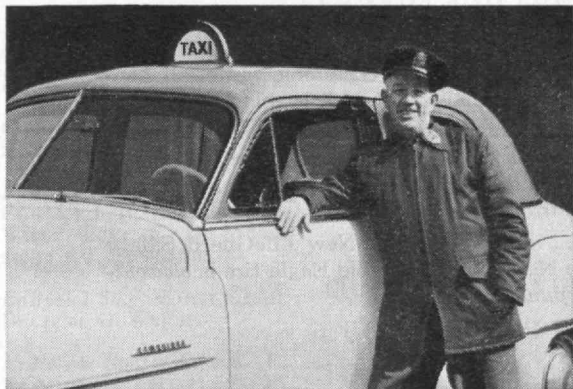
CHRYSLER CORPORATION

engineers and builds **PLYMOUTH, DODGE, DE SOTO, CHRYSLER CARS & DODGE TRUCKS**

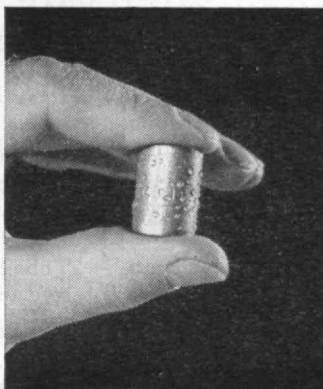
Chrysler Marine & Industrial Engines • Oilite Powdered Metal Products • Mopar Parts & Accessories
Airtemp Heating, Air Conditioning, Refrigeration • Cycleweld Cement Products

You measure the value of a car very simply: a car that performs better when you drive it, then brings a higher return when you trade it in, is *worth more* to you.

The value you get in a Chrysler-built car is the result of a lot of little things, as well as big ones. Engineering, testing, developing new processes — all add up to cars and trucks that operate better and longer. This kind of value is important now, when so much of American life depends on motor vehicles. The same skills that give you Chrysler Corporation cars and trucks are filling defense assignments to help protect the way we live.



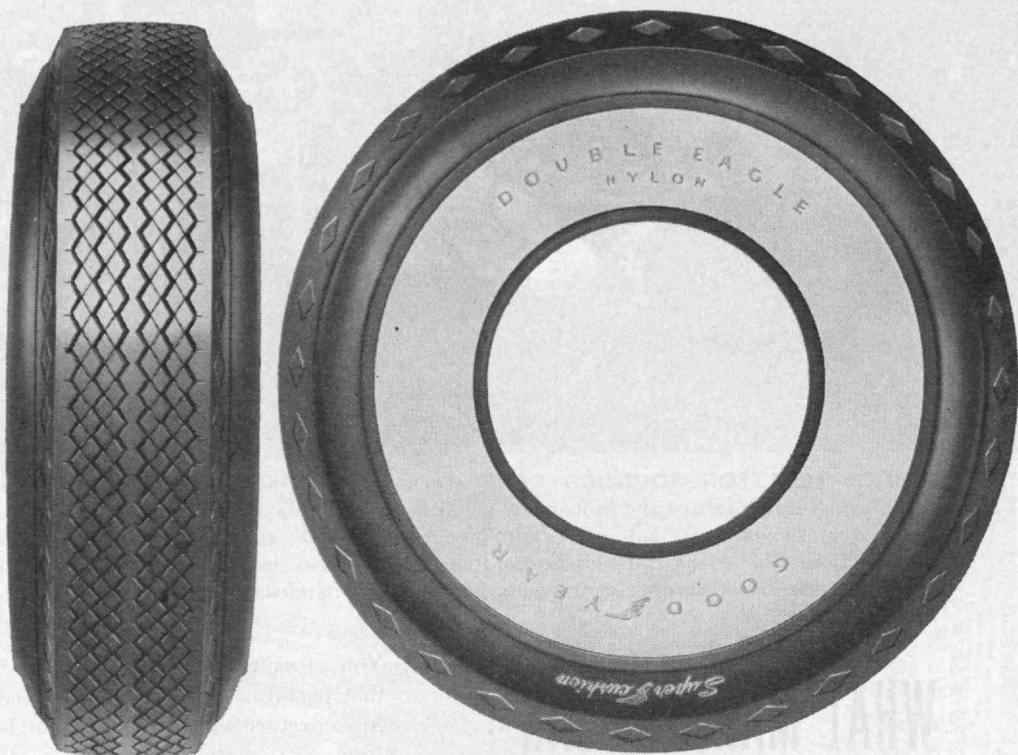
PROOF OF VALUE. Newark, N.J., cab driver Albert Cornell operates his Plymouth taxi day and night in rain, shine, snow, sleet and heavy city traffic. The engineering skill that built faithful performance into Albert Cornell's cab puts hard-working value into all Plymouth, Dodge, De Soto and Chrysler cars.



HIDDEN SECRETS OF LONGER LIFE. That metal bearing (*left*) actually contains tiny pores, each holding a supply of oil. This metal, *Oilite*, is used for bearings in hard-to-reach spots and other places in your car. *At right* is a "mirror" of tough metal, *Superfinished* by a special process which keeps wear of moving parts to a minimum. *Oilite* and *Superfinish* add greatly to the long life of Chrysler-built cars.

CAN YOU NOW BE HAPPY WITH LESS?

THE NEW PLUS



PLUS-10... The only All-Nylon Cord passenger-car tire!

THIS almost incredible new tire will outlast and outperform any other tire you can buy. Here are not just one or two points of superiority, but marked, demonstrable superiority in every aspect of tire service. If you're the kind of man who demands and gets the finest, you'll never be happy with less than Goodyear's new Plus-10 Double Eagle. See it at your Goodyear dealer's now.

PLUS 1—The only passenger-car tire in the world with an all-nylon cord body.

PLUS 2—Goodyear Heat-Tempered Nylon Cords make the new Double Eagle $1\frac{1}{2}$ to 2 times as strong as standard tires.

PLUS 3—Safety! Over 2,000,000 miles of gruelling road tests *prove* that this is the safest tire ever designed for a passenger car.

PLUS 4—26% more nonskid tread thickness gives up to 42% more safe mileage than standard tires.

PLUS 5—Sensational new Resist-a-Skid Tread, an exclusive Goodyear development, grips at all angles

of skid! Quicker on the start, safer on the stop! Gives safer, surer traction on wet roads, on snow—even on ice.

PLUS 6—Full, safe traction for life! Exclusive Resist-a-Skid tread design never needs re-cutting to restore its traction.

PLUS 7—Welcome comfort! Low-pressure, Super-Cushion ride soaks up road shocks, saves wear and tear on the car and you.

PLUS 8—New Scuff Rib protects white sidewalls when you scrape the curb.

PLUS 9—Extra beauty! Gleaming whitewall contrasts with diamond-sculptured, jet-black shoulders.

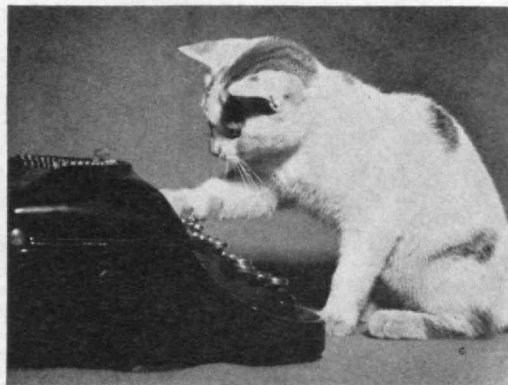
PLUS 10—Value! With all the advantages of the exclusive Resist-a-Skid Tread, the *nylon* cord body, this tire costs only about 5% more than ordinary premium tires made of rayon!

And . . . with Goodyear's New LifeGuard Safety Tube the New Plus-10 Double Eagle tire is *blowout-safe* and *puncture-safe*!

GOOD YEAR

PLUS-10 DOUBLE EAGLE

Double Eagle, Super-Cushion and LifeGuard, T. M.'s—The Goodyear Tire & Rubber Company, Akron, Ohio



Baldwin from Black Star

"Dear Son: Now that you have graduated . . ."

THE TECHNOLOGY REVIEW

TITLE REGISTERED, U. S. PATENT OFFICE

EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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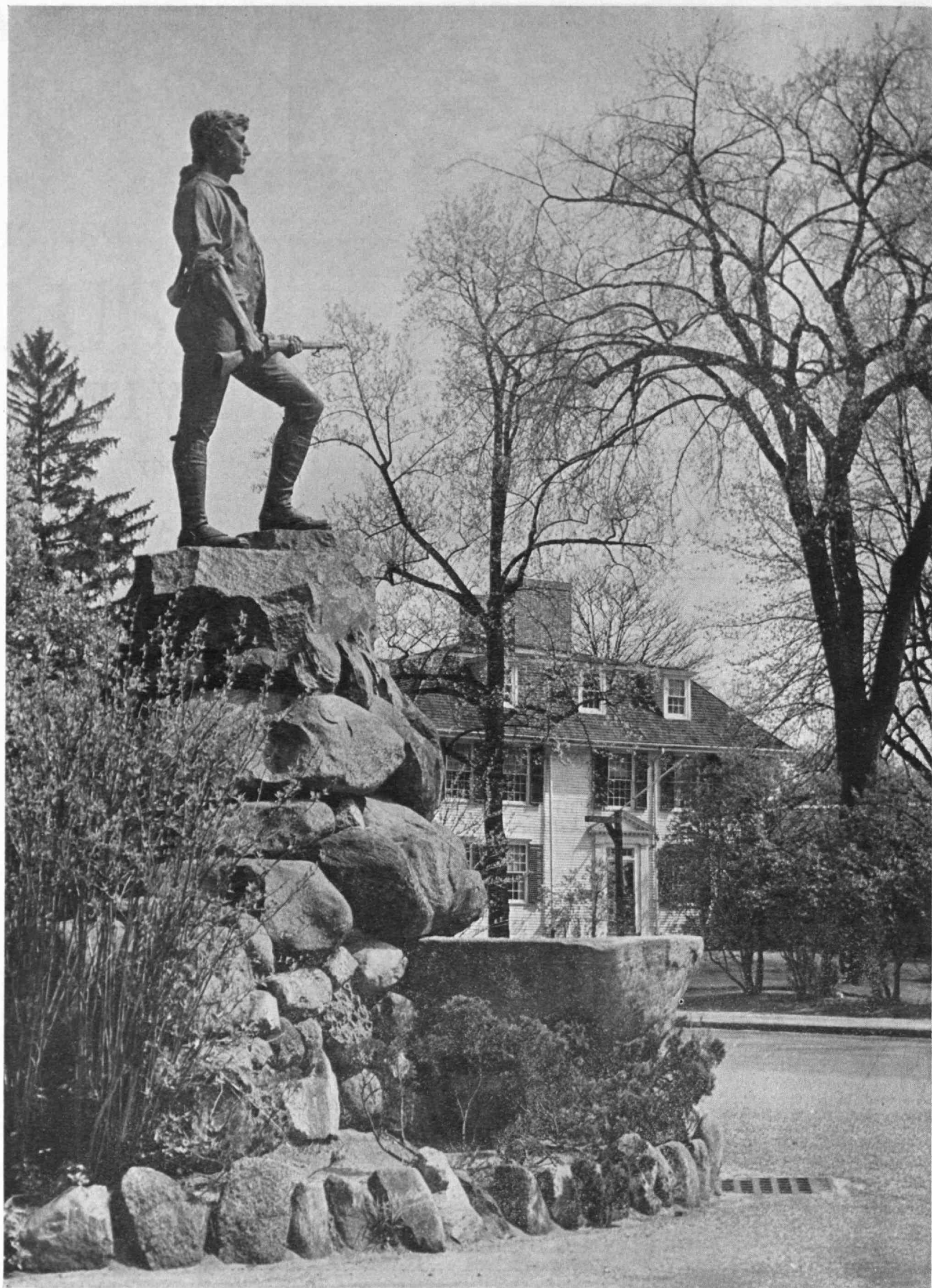
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Raymond E. Hanson

"Grant us grace fearlessly to contend against evil, and to make no peace with oppression; and that we may reverently use our freedom, help us to employ it in the maintenance of justice among men and nations."

—Book of Common Prayer

THE TECHNOLOGY REVIEW

Vol. 54, No. 9



July, 1952

The Trend of Affairs

This Narrow Cell

AN extraordinary lag sometimes occurs between the time a useful technique is developed in one phase of the biological sciences and the time it is applied to comparable problems in a different phase. An example is single-cell transfer, long used in bacteriology, but now for the first time being extended to cancer research. The application in cancer work is in transplantation of tumors of the "ascites" (pronounced a-sight'-ease) variety. These tumors consist of numerous separate cells, growing unattached in the fluid of the body cavity. As such tumors progress, they cause a condition of ascites, or dropsy, which is distention of the abdomen with excess fluid.

Pure culture work in bacteriology began in the second half of the Nineteenth Century with isolation of presumably pure strains from colonies growing on semisolid culture mediums. Such colonies are produced by mixing a suspension of micro-organisms in a jellylike nutrient substance. After a day or so, visible colonies appear. As the semisolid state of the medium keeps these colonies separate, any one can be lifted out and used to start a culture. The original assumption was that each colony originated from a single cell, as bacteria are one-celled organisms. In time, however, this assumption proved to be unjustified. Since bacteria may aggregate in clumps, cultures started from colonies often turned out to be mixtures of different species, or mixtures of genetic variants of the same species. Therefore, the desirability of starting cultures from known single microbial cells became obvious. To accomplish this objective, micromanipulators of extraordinary precise mechanical design were developed. These devices make it possible to reach into a culture and withdraw a single microbe, although the cells are only a few microns — about one

ten-thousandth of an inch — in diameter. Micromanipulators have by now been perfected to the point that they are also used to cut, inject, and otherwise manipulate the tiny cells.

In the field of cancer research, transplantable animal tumors are a basic tool. Such tumors of the solid type are propagated by cutting off a bit of a tumor from a living animal and implanting it in the tissues of another. The transferred tumor quickly becomes attached and grows. Thus, these tumors may be carried on indefinitely from animal to animal and from generation to generation. They provide an invaluable means for studying factors involved in causing cancers, as well as possible methods of prevention or treatment of the growths.

But studies with transplantable solid tumors have led to certain baffling results. These paradoxes have not been definitely explained, but it has been postulated that they may be due to the presence of more than one type of cell in the solid tumors. As a sizable bit of tissue is transferred when these tumors are transplanted, they easily could be carried forward as mixtures. The parallel with pure culture problems in bacteriology becomes apparent at this point.

Transplantable ascites tumors, already mentioned, were developed later than the transplantable solid tumors. They have certain experimental advantages, certain disadvantages. One of the advantages is that a *single* ascites tumor cell introduced into the body cavity can cause a tumor of this type. Therefore, single-cell transfer techniques, comparable to those long used by bacteriologists, are now being applied to transplantation of experimental ascites tumors. This technique assures that the tumors include cells of only a single genetic type. Thus, some of the puzzling results obtained with solid tumors may now be resolved satisfactorily.

Involuntary Guest

IN a book entitled, *I Was Stalin's Prisoner* (New York: Harcourt, Brace and Company), published May 1, Robert A. Vogeler, '37, reports on his nightmarish experience of a year and one-half as an involuntary guest of the Hungarian Government. Following graduation from the Institute, Mr. Vogeler spent several years as engineer and junior executive for a number of manufacturers of electrical communication equipment, both in the United States and in Europe. He was appointed assistant vice-president of the International Telephone and Telegraph Company in the postwar period, and, in this capacity, was assigned to manage certain business enterprises and operate manufacturing plants for I. T. and T. and its subsidiaries in Austria, Czechoslovakia, and Hungary. The possibility of operating manufacturing companies in the Iron Curtain countries on a businesslike basis became increasingly difficult, however, except through acquiescence to illegal seizure, and the difficulties of "co-operating" with the dictator governments resulted in a series of events which ultimately led to Mr. Vogeler's arrest and imprisonment.

Mr. Vogeler's book, with Leigh White as collaborator, reveals the gross inefficiency and complete inability of dictatorships to tolerate the least bit of criticism, however justified; it paints a stark picture of the uncertain and fearful existence of a populace subjected to the brutal arrogance of the more illustrious party members. Realistically portrayed, too, is the illegal seizure of citizens of the United States, England, and other countries, who are not infrequently held incommunicado without charges, and the torturous methods by which "enemies of the people" have been apprehended and forced to confess all manner of absurd falsehoods, so long as these serve the purpose of dictator governments. After reading of Mr. Vogeler's experiences, it is easy to understand why the "free and voluntary confessions" of a Cardinal Mindszenty, a Robert Vogeler, or perhaps a William Oatis (still in prison) must be alike in their elaborate, detailed, and well-rehearsed admission of espionage and sabotage, their supposedly regretful realization of wrongdoing, and their pleas for just punishment and opportunity for atonement through suitable sentence by the "people's court."

Robert Vogeler's book is not likely to receive a Nobel prize for literary excellence, but it contains significant messages for all who seek liberation from political tyranny. Of the lessons Mr. Vogeler's volume teaches, at least three stand out head and shoulders above the rest: (1) No freedom or liberty is possible in countries in which government by personal decree replaces government by law; (2) there is no possibility of dealing with governments of Iron Curtain countries except by the display of strength and, whenever and wherever necessary, by the use of adequate and overpowering force; (3) since the end of World War II, the foreign policy of the United States has been so completely bungled that—as the experiences of Vogeler and Oatis amply demonstrate—the safety of American citizens in foreign countries is no longer guaranteed, and the release of illegally held Americans has been achieved by submitting to blackmail.

Mr. Vogeler's story is not a pretty one, but it is well documented and accurate so far as can be judged by the engineering and business aspects. There is no reason to believe that those events which only Mr. Vogeler can personally report are presented with any less veracity or accuracy. Ostrichlike creatures who may still entertain hope of co-operating with dictator governments will find many things to explain away after reading *I Was Stalin's Prisoner*.

Scientists for Peace

BY the very nature of their work, scientists are bound to be objective, impartial, alert to the detection of error through suitable techniques of tests and checks, and co-operative on a truly international scale. Of all groups who would naturally promote international peace, if left to themselves, first place must certainly be given to scientists.

Against such a background, it may be well to report that, on two occasions within the past six months, Technology Alumni—and even students—have received membership applications in recently created organizations whose purpose is, ostensibly, to promote peace and to advance social responsibility among those engaged in science and engineering. In both cases, the aims of the burgeoning societies were vaguely stated and the officers were not listed. After some effort, the names of the sponsors of one of these societies were learned. Far from being in the forefront of the science or engineering professions, the sponsors could not even be identified through such standard biographical reference works as *American Men of Science*, *Who's Who in Engineering*, and *Who's Who in America*. Moreover, the organization in question was found to be not on the best of terms with the local Chamber of Commerce or, for that matter, with the United States Post Office Department.

No person in his right mind is likely to quarrel with legitimate activities of responsible groups who are sincerely interested in promoting peace. But reputable societies do not usually conduct their affairs in the manner described above. It is well to remember, too, that in the past so-called peace organizations have been used as fronts for groups whose real purpose was not as lofty as appeared on the surface.

Possibly Review readers do not need to be cautioned against affiliating themselves with groups whose officers and activities do not bear up well under scrutiny. But how is one to determine whether a newly created society will pass muster? The reputations of its leaders will often give a clue which is highly revealing. Where it is difficult or impossible to find suitable information locally, the American Association for the Advancement of Science in Washington, D. C., can often provide information on organizations and individuals engaged in science or engineering. One should be suspicious of material appearing to come from Technology sources. Lists of Alumni—or of students of Technology—are not available for purposes of solicitation. Should it appear that Review readers are approached through improper use of such lists, the Review office should be notified of the circumstances.

(Continued on page 522)

By What Measure?

The First Task of Our Free Society Is To Develop Dynamic Ideals by Encouraging Each Individual To Seek a Deeper Significance within His Own Life

By CHARLES E. WYZANSKI, JR.

BACCALAUREATE ADDRESS

THERE is a famous saying which has been attributed to the first Lord Shaftesbury: "What is your religion?" "The religion of all sensible men." "And what is the religion of all sensible men?" "Sensible men never tell."¹

It is undeniably rash to depart from this prudent reminder and to discuss the ultimate standards by which one measures life. For the audience is certain to have radically different views. And, more important, it requires not only frankness but humility to admit how baffling are the problems and how inadequate the answers. When we wrestle with the ultimate, all of us, like Jacob of old, feel that we are touched in the hollow, and the hollow is strained; but few of us extort the blessing that we seek.²

At the outset one must candidly admit that, in our own era; there is a substantial body of opinion to the effect that it is meaningless to talk about questions of ultimate value. According to this opinion, the life of man is lived in a welter of conflicting interests; each of these interests has some value; some of these interests are tinged with and expressed in terms of emotion; but none of these interests has any resemblance whatsoever to those eternal ideas of which Plato spoke and which, for him, possessed a clarity and universality similar to mathematical principles. We are reminded that when a man speaks of the values he cherishes he inevitably shows the bias of his animal origin, his economic status, his early emotional experiences. The eternal Republic of Plato, we are told, has fallen before the assaults of Darwin, Marx, and Freud. And the new utopia is pictured as one where men's needs and desires are first tested for stress and thrust, and then as many of them as possible are satisfied by that type of statesman appropriately called "a social engineer."

Lest you think I exaggerate the degree to which a severely empirical, materialistic approach has caught us in its grip, let me recall three conspicuous examples of contemporary thinking in international, national, and personal spheres.

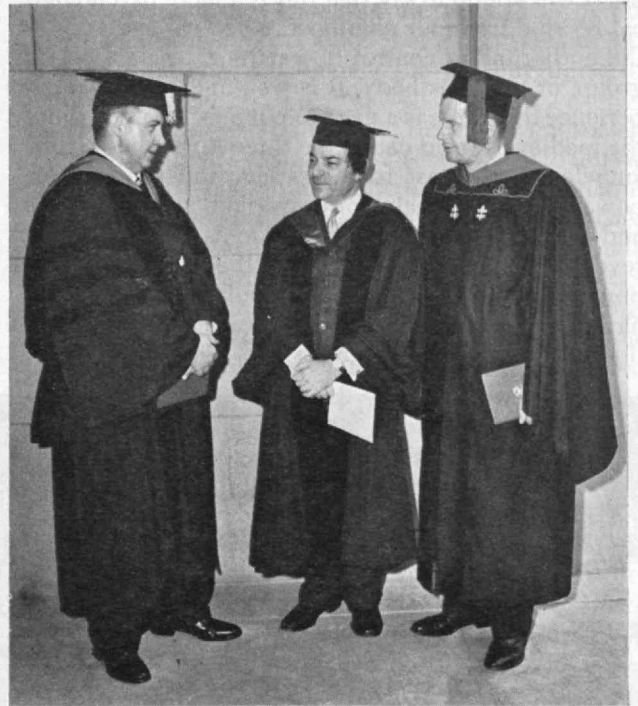
In a penetrating diagnosis of American diplomacy, George Kennan, our highly qualified ambassador to the U.S.S.R., concludes: "I see the most serious fault of our past policy formulation to lie in . . . the legalis-

tic-moralistic approach . . . the assumption that state behavior is a fit subject for moral judgment. . . . Our own national interest is all that we are really capable of knowing and understanding."³

A like philosophy animated the opinion of the Supreme Court of the United States in dealing with the most critical issue of civil liberties presented in the last decade. "Nothing," wrote Chief Justice Vinson, "is more certain in modern society than the principle that there are no absolutes . . . a standard has meaning only when associated with the considerations which gave birth to the nomenclature . . . all concepts are relative."⁴ And, in a field quite different in scope from these political examples, the field of personal moral conduct, we find a similar willingness to discard what might be called the test of idealism in

³Kennan, George F., *American Diplomacy, 1900-1950*, pages 95, 100, 103 (Chicago: University of Chicago Press, 1951), \$2.75.

⁴*United States v. Dennis*, 341 U. S. 494 at 508.



M.I.T. Photo

President James R. Killian, Jr., the Honorable Charles E. Wyzanski, Jr., and E. Francis Bowditch, Dean of Students (left to right), just prior to baccalaureate services which were held in Walker Memorial.

¹Stephen, Sir Leslie, *History of English Thought in the Eighteenth Century I*: 341-342 (New York: G. P. Putnam's Sons, 1881).

²Genesis 12: 22-34.

favor of a stark realism based upon self-interest. I refer to the obvious change in sexual morals which is both portrayed in, and accelerated by, a book like the Kinsey Report.

Now it is not my plan to examine the soundness of the particular assessment of interests made by Ambassador Kennan, Chief Justice Vinson, or Dr. Kinsey. My object in citing them was to illustrate the degree to which major problems in our society tend to be viewed in strictly pragmatic terms. And in using the adjective pragmatic, I mean not to combat a particular philosophical school, but to show the extent to which, in some quarters, the emphasis is not on idealism, but on utility and self-interest as the measure of one's life.

No one of you will suppose that empiricism is a novel doctrine. Twenty-five hundred years ago, Protagoras taught that "man is the measure of all things." And every generation, to some extent, revolts against the ideals of its fathers. In so far as the Ambassador, the Chief Justice, and Dr. Kinsey help us acknowledge that our ideals have changed, and thus save us from hypocrisy, so much the better. There is no more corrosive corruption than continuous proclamations of allegiance to a tradition which one secretly despises and practically disregards. For my part, I welcome so much of the pragmatic revolt as avowedly discards the values we are not prepared to embrace; and I favor keeping an open house for the spirit of truth in the realm of human action no less than in the realm of physical science.

But the empirical rejection of a particular tradition and opening the door to free inquiry do not show that no ideal element whatsoever should enter into the assessment of human conduct. Most of us are aware of a tension between what we are and what we would be. It will not do to say that this is a mere psychological residue from our childhood when we were under the authoritarian control of a parent, teacher, social group, or religious body. It is well-nigh universal experience that there is a need to put a bridle upon what the medieval world called the three lusts: the lust for knowledge, the lust for sensation, and the lust for power. The classical world warned against *hubris* and the Christian world lists pride as the first of the seven deadly sins. And for us of the present generation these admonitions have particular force. Not only have we observed the extent to which vaulting ambition has debauched the Nazi and the Russian state

machines, but our own American accession to a place of predominant power has filled us with, quite literally, an awe-ful sense of responsibility. The repeated citation of Acton's dictum of the corruption of power is indicative of our consciousness that, unless we are restrained, we shall encounter our nemesis. Indeed, is this not the basis of the great appeal of Reinhold Niebuhr's doctrine of the sinfulness of man and the irony of attempting to seek an escape within the framework of history?

Yet the awareness of the need of moderation in conduct and humility in thought does not, by itself, satisfy the deepest craving of our time. We have witnessed, as perhaps no other generation has, new disclosures of the mighty forces of nature and of the weakness and unreliability of man. For we have been contemporaries not only of the discoverers of nuclear fission, but of the defendants, here and abroad, who conspired to betray their countries' most precious secrets. From treason itself we have learned how deep a role idealism can play. And we demand a true faith, responsive to those affirmative, adventurous pulsations which emanate from the mystery of life.

Some would have us return to the bosom of an orthodox church, there to imbibe a revealed religion. No one can deny the appeal of this call and the degree to which it answers a widespread yearning for spiritual security. It offers a settled discipline that comes with the credentials of a long past and the promise of an everlasting future. Blessed are those who are prepared for that road. But for some of us there appears, at least initially, to be a barrier foreclosing the path to this refuge. We believe that in the world of the ideal, as well as in the world of fact, the door to further inquiry must never be closed. Any dogmatism is, by definition, unacceptable to us since, in our view, the journey of man on earth must always be in terms of search rather than discovery. Perhaps it was of this that the Seventeenth-Century French Catholic Malebranche was thinking when he said that, "if God held in one hand truth, and in the other the pursuit of truth, he would say 'Lord, the truth is for thee alone; give me the pursuit.'"⁵

Others urge us to turn for guidance to the humanistic tradition — to classical Athens, or Renaissance Florence, or Augustan England, or to some synthesis of "the best that has been thought and said in the

⁵Holmes, Oliver Wendell, *Collected Legal Papers*, page 247 (New York: Harcourt, Brace and Company, 1921).

M.I.T. Photo



The Class of 1952 enters Walker Memorial to attend baccalaureate services at which the Honorable Charles E. Wyzanski, Jr., gave the inspiring address, "By What Measure?"

world." This approach has been familiar since the time of Matthew Arnold, though it has been given new currency by lists of the hundred best books and courses in so-called general education. While every insight of the past has its precious contribution to make to the enlargement of men's vision, this predominantly retrospective assessment of men's ideals has within it the seeds of great danger. It is, by definition, a philosophy of conservatism — the saving of the values of the past. Thus it gives minor scope to the adventurous and creative aspects of the present. Moreover, as Alfred N. Whitehead warned: "Nothing does more harm in unnerving men for their duties in the present, than the attention devoted to the points of excellence in the past as compared with the average failure of the present day."⁶

This is not to say that history has not much to teach us. But its first lesson is that effective idealism is the consequence not of great doctrines, not even of great men, but of great societies. And the way societies produce greatness is by the deliberate cultivation of a sense of style. In using the word "style," I mean more than fashion — I intend to emphasize the architectonic nature of virtue: the construction of an image of man's role in a social framework. Greek literature, Greek art, Greek politics, Greek science, even Greek medicine, as Professor Werner W. Jaeger reminds us, in his book entitled *Paideia*, bear the impress of the Athenian concept of *arete*: "Originally an *arete* was any kind of excellence," but later it became "a combination of proud and courtly morality with warlike valour . . . the idea of *arete* is the quintessence of early Greek aristocratic education."⁷

A quite different sense of style characterized the civilization of medieval Florence, but without it Dante could never have had his vision of the eternal realms or his standards to measure out damnation and salvation.

The point that I am endeavoring to make is that morality is, as its etymology indicates, a result of social structure. Ideal standards are not to be found in copybooks handed down from father to son or church to communicant. Dynamic ideals are an ennobling of particular social, economic, and other material conditions. Each age must make its own measure suitable to its own material. The task is not one of discovery of some standard already laid up in Heaven, or previously used on earth. Indeed, it is not a problem of discovery at all, but of artistic invention, or, if you prefer, poetic creation. But this does not mean the search for morals is illusory. Being a work of art, moral idealism is as real and enduring as a sunset or a song. This accords with Spinoza's propositions: "first that values are essentially relative to men and are in this sense human inventions; goodness and beauty do not belong to things apart from their relation to men; secondly, that while relative to men they are founded in the nature of things and are not arbitrary."⁸

Someone will say this is all very well as a preliminary skirmish, but come now, tell us what kind

⁶*Science and the Modern World*, page 294 (New York: Macmillan Company, 1929).

⁷*Paideia: The Ideals of Greek Culture*, I: 3, 102 (New York: Oxford University Press, 1939-1945).

⁸Alexander, Samuel, *Philosophical and Literary Pieces*, page 283 (New York: Macmillan Company, 1939).

of form or style is or should be characteristic of our age. What is this ideal interpretation which we should stamp upon the external world we know, and which, though it will not last *semper ubique* as a model for the action of other societies, will none the less so mould our time as to give it imperishable glory? How may it be attained?

Let me begin by reminding you of the dominant external characteristics of the society in which we live. Scientific technology, proceeding by way of the industrial revolution, has broken up the unities familiar to our grandfathers. It has converted the man of general competence sometimes into a professional, but more often into a specialist carrying on a task so esoteric, or at least so sharply defined, that its true nature is not understood by one's children or one's neighbors. Modern methods of production, communication, and transportation have created ever-larger areas of effective business, social, and political control, with the consequent decay of those smaller communities and enterprises where virtue was nourished according to time-honored formulas, and subjected to never-ceasing local vigilance. More and more our population has moved into, or adjacent to, metropolitan centers of varied racial and religious backgrounds. Separatism has become a theme of our social life in a way totally unfamiliar to those who knew American democracy in terms of the New England colonial village or even of the Middletown of the last generation. And while technology has tried to balance this divisive current by the cementing forces of motion pictures, radio, television, magazines whose circulation runs into the millions, and newspapers reporting instantaneously significant events from all over the globe, newer methods of communication exert a broadening rather than a deepening influence. We soon become aware how thin and superficial is this new knowledge, how much better it satisfies our appetite for sensation than it satisfies our thirst for understanding.

There are those who propose that to give a society so seriated a sense of purpose, it is necessary to impose a new unity — one built chiefly on a single system of primary and secondary education, bound by successively extracted oaths of allegiance, and perpetually renewed by declared conformity to an expressed commitment. To most of us, however, this has strange echoes of the totalitarianism we deprecate. If our society is to evolve a style that is to be remembered, it must be founded on diversity. That is the root character of our population, of our specialized work, of our urban life, of the freedoms which we have cherished.

And so I suggest that, in its search for value and style, the first task of our free society is to encourage each individual to seek within his own task, his own background, his own social life, a deeper significance. This suggestion will perhaps strike you at first as almost trivial; or at any rate a quite inadequate prescription. Yet once one begins to look upon one's own work imaginatively, becomes concerned with its history, its methods of reasoning, its social impact, its growth of purpose, not only the work itself but the whole universe seems to light up. One is led to seek

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Worthy To Be Confident

Graduates Are Admonished to "Enter Your Career with Confidence and with Humility of the Man Who Is Worthy To Be Confident"

By JAMES R. KILLIAN, JR.

VALEDICTORY ADDRESS

ON behalf of the Corporation and Faculty, I salute you as Alumni and Alumnae and welcome you into the company of educated men and women. I also salute and congratulate the parents of the graduates. Earlier this week I sat as a parent at another college graduation, so I can speak as an expert in echoing the parental pride and satisfaction on this occasion. In vicarious but acutely real fashion, parents of college students take their work in course, get their grades, manage to survive through the senior year, and stand as happy but silent partners of the degree recipients.

One hundred and thirty-four members of the senior class are married and a large number of them are the recipients of graduate degrees. I salute and congratulate their wives. They have probably worked harder than anyone else for their husbands' degrees, and today's bays and laurels are their achievement, too.

In the years ahead, I hope that the wives will think always of M.I.T. as their almus pater, and that they will today figuratively join with the parents in an M.I.T. cheer — perhaps, appropriately, our students' favorite cheer, a "We are happy," and so on.

To you of the graduated class, I venture the opinion that the conditions under which you receive your degrees are auspicious to your future. Consider your education. Because of M.I.T.'s high standards and tradition of hard work, graduation from it marks no real discontinuity in the curve of your career. While students here, you have engaged in the same hard, sustained, intellectual work and exercise of judgment which are required of the professional man at any stage of his career. You have had the advantage of an education in which the standards, the methods, the objectives, and the ideals of public service are professional in nature.

You have also had the advantage of studying in an atmosphere where research and learning and living are untrammelled by any doctrinaire or ideological control. You have lived and worked in an atmosphere where learning is not contaminated or warped by any of the great pestilences of our time such as communism. You have lived in an environment where the scholar is free to be responsible and is responsibly free. In your life outside the classroom you have received and accepted a matching freedom — the freedom and self-discipline of a zealously independent student government.

In recent weeks, widely publicized student disturbances across the country have produced an unhappily

distorted view of college students; for in them the uncontrolled silliness of the few has cast an unjust shadow on the mature civil conduct of the majority. I do not condone this rash of outbreaks. But I shall not permit it to debar me from expressing my admiration for this generation of college students — their mature high spirits, their unmistakable capacity to be responsible citizens, their high standards of work and conduct, and their serious purpose.

Not in my quarter century of experience have college students, as I have known them, been more promising or more worthy to warrant the nation's confidence and pride. This confidence has been amply justified by the effectiveness and maturity of your student government, operating in our long tradition of student responsibility and self-reliance. Having lived in this kind of academic environment, you carry with you, as a part of your educational heritage, the solid accomplishments and the intellectual, democratic, and spiritual ideals which have made M.I.T. one of the great educational institutions of the world. You have demonstrated your capacity still further to enrich this heritage.

Next, consider the period in which you are graduated. Probably there has never been a time in which men and women with preparation and objectives such as yours have been more in demand, or when there was a greater need for your special abilities. There are other facts auspicious to your future. If the unsettled state of the world has created uncertainty and tension, it has also created special opportunities and responsibilities for educated men. Think for a minute what the present position of the United States means in terms of opportunities for young men. We have become a world power with vast new responsibilities abroad, and commensurately increased responsibilities at home. Never have the young professional people of this nation faced such an array of opportunities and responsibilities — and dangers. If America is surely and wisely to grasp its opportunity for benign world influence, it will do so because it has men of such skill, maturity, imagination, and unimpeachable integrity that a whole new level of public and private service can be attained.

Even though the times in which we live are difficult and unsettled, I see no basis for gloom and frustration. One of our well-known historians recently ventured the comment that the United States may be now in one of its greatest periods — perhaps its Eliza-

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Education and Chance

*Of the Abilities Which We Build Up within Ourselves in College,
Often without Any Idea of How We Are Going to Use Them,
One of the Most Important Is Command of English*

By EDWARD A. WEEKS, JR.

COMMENCEMENT ADDRESS

I WANT to talk to you this morning about education and chance: I mean the potential which we build up within ourselves in school and college often without any idea of how we are going to use it until Chance nods our way. Some men are blessed with a sense of direction: By the time they are 20, they know where they are going and what they want to do. That was true of Dr. Harvey Cushing, the greatest surgeon I have ever known; the problem of how to operate on the brain challenged him as early as 1901. Some men have to choose between two or three beckoning careers. Dr. Hans Zinsser, the great pathologist, published his first volume of lyrics while he was still an undergraduate at Columbia. He could have gone on to distinguish himself as a man of letters — instead he chose biochemistry and medicine, and did his writing for the *Atlantic* on the side. But these are the lucky ones who come early to self-knowledge.

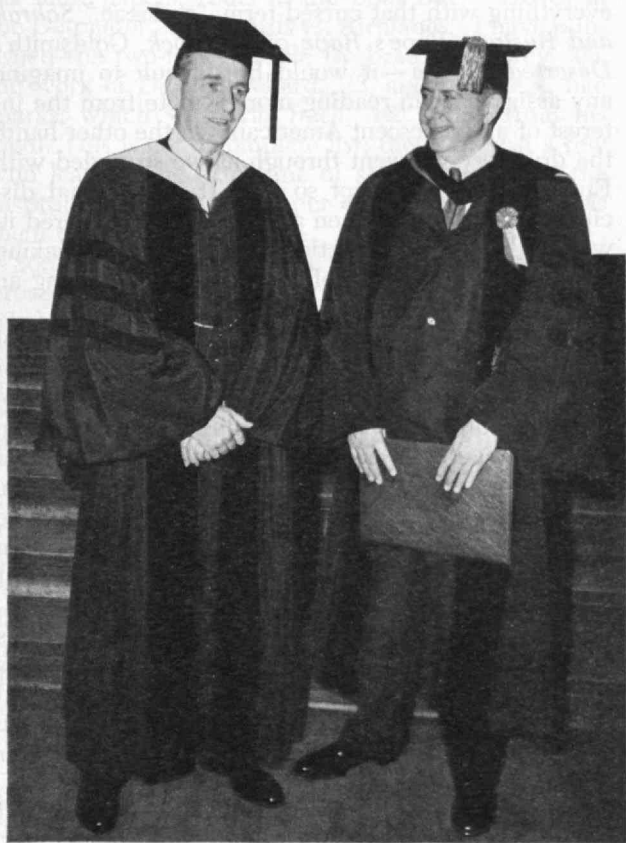
Most of us are educated without any sense of direction. We grind away at our assignments without thinking that they may become a permanent and valuable part of our cargo. As the old song puts it: "We Don't Know Where We're Going, but We're on Our Way." This was my story. I am the ninth editor of the *Atlantic*, and the first of the nine to hold a bachelor of science degree. Indeed, it was not until I was washed out of mechanical engineering that I began to think seriously of literature.

All the way through school I was the runt of my class. There is nothing you can tell me about the humiliation of being small — I know that lesson by heart. I was a slow reader and a still slower writer, so slow that I was never able to finish a college board examination. My only good subject was algebra and my speed in algebra, compared with my other work, was like lightning. This convinced the family that I was destined to be an engineer and they sent me to Cornell University.

I arrived at Ithaca weighing exactly 92 pounds, and in my freshman year I had a reasonable chance of being coxswain on the freshman crew. But I was completely baffled by what was going on in my classes in analytics, calculus, and in physics. Each term I narrowly succeeded in passing two courses and I failed in three. I don't know how long this can go on at the Institute, but at Cornell there are limits — and I reached them in almost record time. Instead of waiting until I "busted out," I volunteered as a private in

the French Army, the only army, incidentally, which was then willing to accept a soldier weighing under 100 pounds. During my two years in France, I grew six inches and I learned to speak French and read English — I mean read it voluminously.

And now here came Chance. Acting on an impulse, my mother submitted my war letters to the *Atlantic Monthly*. They were promptly rejected, but the letter which returned them had an encouraging phrase in it, and it was those words of no more than editorial politeness — as I now realize — which started my thinking. Perhaps I could do something with books; perhaps it would be well to transfer to Harvard and study English when I got home. I remember how old I felt when I came up to Cambridge in the autumn of



M.I.T. Photo

Edward A. Weeks, Jr., ninth editor of the *Atlantic Monthly*, and *Technology's* President James R. Killian, Jr., '26, seventh editor of *The Technology Review*, chat informally before making their commencement addresses to the graduating class.

1919 — I was in my 22d year — and I remember my dismay when the dean told me that it would take at least three years to fill up the gaps. It looked as if I would be the oldest living undergraduate in the history of the university.

In Cambridge, my blinders came off. I heard Christopher Morley, a visiting lecturer, discuss Keats's poems against the background of Keats's letters; and poetry took on a new meaning. I remember Professor Robinson making Chaucer dance, and Bliss Perry talking about Wordsworth and Coleridge in words that still had the dew on them. I remember the avidity with which I read Thackeray, and the insomnia that came as I wrote till 2:00 and 3:00 A.M. on my short stories and essays for Dean Briggs. When at last I turned off the light, I could not turn off the mind. This was education totally unlike anything I had ever known before; it was a series of discoveries which led me on and on through that great arch; I, who had been such a slow starter at Cornell, was now beginning to wake up.

If I did well — and from my second year on I held scholarships — it was not only because I was hungry, it was because years earlier, in secondary school, a devoted, keen-minded woman, Miss Harriet Budd, had drilled into me three things: First, the ability to memorize; secondly, the knowledge of how an English sentence is fitted together; thirdly, a hatred of dull books.

In my day, the books we were required to read in school were like grindstones; and, as our noses were held to them, a repugnance rose in our minds for everything with that cursed term, "a classic." *Sohrab and Rustum*, Pope's *Rape of the Lock*, Goldsmith's *Deserted Village* — it would be difficult to imagine any assignment in reading more remote from the interest of an adolescent American. On the other hand, the drudgery we went through as we struggled with English syntax was not so bad. It was factual disciplinary work. But when at last we had mastered it, we felt the clean satisfaction that comes from making an accurate translation of *Caesar* or from solving an algebraic equation.

This learning of syntax is the very foundation of English and no man has ever expressed the need for it better than your guest of three years ago, the Right Honorable Winston Churchill. When Winston Churchill entered Harrow, he was incapable of answering a single question on his Latin examination. He wrote his name; on the left margin he wrote the figure 1; and then eventually he enclosed the 1 in brackets. "I gazed," he said, "for two whole hours at this sad spectacle," and then, with the other examination papers, his was carried up to the headmaster's table. As a result of this showing, Churchill was placed in the lowest division of the bottom form, and he remained at the bottom of the school until he graduated — a heartwarming example for all other slow starters the world over.

He was forbidden to take Latin, and he was obliged to take English. In his book, *A Roving Commission*,* the most exuberant chronicle of British youth I have ever read, he tells us how he was taught the use of the English language:

* New York: Charles Scribner's Sons, 1930.

However, by being so long in the lowest form, I gained an immense advantage over the cleverer boys. They all went on to learn Latin and Greek and splendid things like that. But I was taught English. We were considered such dunces that we could learn only English. Mr. Somervell — a most delightful man, to whom my debt is great — was charged with the duty of teaching the stupidest boys the most disregarded thing — namely, to write mere English. He knew how to do it. He taught it as no one else has ever taught it. Not only did we learn English parsing thoroughly, but we also practised continually English analysis. Mr. Somervell had a system of his own. He took a fairly long sentence, and broke it up into its components by means of black, red, blue, and green inks. Subject, verb, object: relative clauses, conditional clauses, conjunctive and disjunctive clauses! Each had its color and its bracket. It was a kind of drill. We did it almost daily. As I remained in the Third Form (B) three times as long as anyone else, I had three times as much of it. I learned it thoroughly. Thus I got into my bones the essential structure of the ordinary English sentence — which is a noble thing. And when in after years, my schoolfellows who had won prizes and distinction for writing such beautiful Latin poetry and pithy Greek epigrams had to come down again to common English, to earn their living or make their way, I did not feel myself at any disadvantage. Naturally, I am biased in favor of boys learning English. I would make them all learn English: and then I would let the clever ones learn Latin as an honor, and Greek as a treat. But the only thing I would whip them for would be for not knowing English. I would whip them hard for that.

It is curious or is it logical that the most brilliant orator of our time, and its greatest historian, was condemned to study English three times longer than any other boy in his school?

Do American boys graduating from high school today have in their bones "the essential structure of the ordinary American sentence?" The answer, I am sorry to say, is no; a very positive no. A few of the bright ones can write creditably, but the vast majority cannot. The evidence on this point is overwhelming. I have visited a good many colleges this past year, and at every stop — at the University of Maine and at Ohio State, at Wellesley, and the University of Louisville — the lament was the same. The teaching of English in our high schools has deteriorated to the point where the better-than-average graduates cannot write with accuracy, much less with skill.

Partly, this deficiency is the result of progressive education which has gone light on grammar, and which, by use of the flash-card system, teaches students to identify words without knowing how to spell them. Partly, it is the result of the scholastic aptitude tests which, in the rush of the War, discarded the essay type of examination with the result that students are graded for the accuracy of their facts but they are not degraded for sloppy writing. Partly, it is the effect of the strenuous competition between the book, on the one hand, and the radio, the television screen, and the comics on the other. But if you want to see how far the deterioration has gone, remember this fact: that one boy in every 10 across the country is today in need of remedial aid in reading, writing, and spelling. I say he is in need; whether he actually gets such aid is another matter.

This deficiency seems to me one of the saddest facts in American education; for if a man cannot express

himself by the time he has graduated from college, there is only a faint hope that he will learn to do so afterwards. Instead of struggling with the damned thing, he will hire someone else to write his speeches, and that is all too true of the top men in industry and politics today. A man like Clarence Randall, President of Inland Steel, who can speak on his feet and write with force, is the rare exception. Ghost writers are in such demand that there are now college courses in ghost writing, and Walter P. Bowman, who is teaching such a course at the American University in Washington, claims that ghost writers have become "indispensable artisans." Well, perhaps.

Personally, I think that "letting George do it" is bad for our democracy. It plugs up our brain power, it slows down the competition of ideas. I don't trust ghost writers; I trust the individual speaking for himself. Do you remember what Bertrand Russell said in that remarkable interview on his 80th birthday? "I do like clarity and exact thinking and I believe that very important to mankind because when you allow yourself to think inexactly, your prejudices, your bias, your self-interest come in ways you don't notice, and you can do bad things without knowing that you're doing them." Those are words to take to heart at a time when the work of scientists is more and more a determining factor in our national security.

Thanks to great teachers like Henry Greenleaf Pearson and Tubby Rogers, you have never found it necessary to install a course in ghost writing here at the Institute. What you have done is to set up your fifth school, the School of Humanities and Social Studies, and, by close correction of the written work in the field of history, produce students who will be both accurate and articulate. It sounds like a promising experiment, but you must work with what you get, and you cannot, in a few short weeks, correct the illiteracy that is coming up to you from the secondary schools in our country.

Let me quote you a few bright gleanings from Institute papers to show what happens when boys, bright enough in other respects, have not been trained to write: "In those days," writes one pupil, "it was considered wrong to marry your mother. That was the moral story of Oedipus." Writes another: "The predominate expression I got from studying the Greek history is that the Greeks did nothing but fight over politics, fight wars, and study philosophy. However, this seems superfictional." And now here is a boy who has got both his geography and his English a little mixed: "Yorktown: Washington surprised Burgoyne at Yorktown on Christmas night by rowing his men across the Hudson and surprising the British while they were having a party." Finally, this epigram: "There was an ample supply of labor in the United States made up of immigrants and our own excesses."

This is one end of the spectrum and at the other are those leading lights of M.I.T., those scientists whose writings I remember as I look down the years. One of the first, and most delightful, was Arthur D. Little, whose urbane, far-sighted articles I put together in book form in 1928. At various periods I have worked in close touch with three former editors of *The Technology Review*: with Eric Hodgins, '22, who came to us to edit the *Youth's Companion*, and whose



M.I.T. Photo

Garden of the President's House where Dr. and Mrs. Killian were hosts to Alumni on June 9.

first book on aircraft we printed; with Malcolm Johnson, '23, now one of the ablest publishers in New York City; and with Fred Fassett, who wrote our "Reports on Atomic Energy" at a very critical period.

During my editorship of the *Atlantic*, I have turned to Isidore I. Rabi for his affirmative article, "Faith in Science." I have welcomed the papers on universal military training by Karl Compton and Edwin Burdell, '20, just as I welcomed those wonderfully laughable experiments which Louis Ridenour described in his short papers, "Bats in the Bom Bay," "Doves in the Detonator," and "Birds vs. Airplanes." I have published the two-fisted article by Bradley Dewey, '09, the work of Dean Burchard, '23, and the ideas, like sparks, which Vannevar Bush, '16, strikes from his anvil. This is not a complete list; these are just a few who learned the discipline of self-expression at the Institute, and who speak out when Chance compels them to do so.

Some of you seniors will have to go through a process of readjustment. You will not be satisfied with what you are doing and will keep searching for a more congenial job. I remember that Robert Benchley, the humorist, went through seven jobs in three years before Franklin P. Adams discovered him and gave him the chance to write humor for the *New York Tribune*. During your period of uncertainty, you will sometimes wonder whether it was really worth while to have stored up the potential for which you have worked so hard here in Cambridge. And then one day you will find yourself, as I did, on a new set of tracks, driving ahead with a speed and incentive you never knew you possessed. You see, I am a profound believer in the slow starter. I know that men mature physically and mentally at different rates of speed and, as they develop, that their I.Q.'s go up.

There is nothing like the satisfaction you will feel when at last you have found the right track. Each year, as your reach extends, you will have gained a little more in self-confidence. When I began my apprenticeship on the *Atlantic*, the first thing I had to do was to increase my speed of reading; I found that by narrowing my gaze and by reading straight down the

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CANADA AND THE UNITED STATES

Distinctions and Similarities

*Americans and Canadians Are Working toward Achievement
of Similar Objectives in International Forums and in
the Development of National Economic Policies*

By ROBERT H. WINTERS

BANQUET ADDRESS

WE experience the comfortable and sociable feeling this evening of being together here as Alumni of M.I.T. That is a satisfying sensation. Between all of us here there are other common ties and interests. This applies especially to those of us who live on the North American Continent, with its great community of interests.

But there are those who are here as outsiders — not spiritually or sentimentally, of course, but rather geographically. For example, I am a Canadian. There are probably other Canadians here, just as there are likely to be Alumni present who either are, or were, citizens of other countries; because M.I.T. is a broad-minded, and therefore a cosmopolitan, institution. That means that some of us are here in the United States as foreigners, through your indulgence or by your invitation. Let us look a bit into what this all means to us.

Mutual Friendship

Now it's difficult for Canadians to think of themselves as foreigners in the United States, and I hope it is equally difficult for citizens of your country to think of themselves as foreigners when they are in Canada. I well recall the first time as a student at M.I.T. when I was invited to the President's Tea given for "foreign" students. It seemed odd to be classified as a foreigner in a neighboring and such a friendly country, especially when such cordial relations were prevailing amongst students from almost every nation in the world, but that's exactly what I was.

The manner in which Canadians and Americans live side by side, do the same things, share the same interests, and have the same concern about the fate of the Brooklyn Dodgers and the Boston Red Sox, and, perhaps most of all, our 4,000 miles of undefended boundary, make us unique in the eyes of the world. When everybody else regards us as being ideal examples of friendly neighbors, it is only reasonable that we should take our friendship for granted. Certainly it is farthest from my mind this evening to say or do anything which will cast doubts. Rather it is my hope that by looking briefly into some of the things we take for granted we will find reason to cherish our mutual friendship even more and thereby perhaps strengthen it.

Geographic High Lights

At Technology, we were required to submit with varying degrees of exposure to a wide variety of subjects. The curriculum covered a multitude of courses, some of which had names that I never did learn to pronounce, let alone interpret. But I don't recall seeing — at least in any of the courses lined up for me each year — anything very much on geography, except as an incidental part of a lecture, during which one of the professors would point out to the class the hazards involved in performing some particular engineering feat in a remote and wild area of Canada having an unpronounceable Indian name.

It occurred to me that I might attempt to make up for some of that lack of geographical reference this evening by spending a few minutes on the "principles of geography." I have selected that wording very carefully, having in mind the practice so prevalent among those who write engineering textbooks to try to avoid the danger of having the reader think his grasp of the subject is limited by referring to each text, no matter how advanced, as being devoted to the "principles" of that particular phase of the science involved. This, at once, gives the author ample scope to cover the whole field and, at the same time, is effective in creating the impression that he knows far more than he really does. So it is in this case when I refer to the "principles" of geography.

The United States and Canada are two of the biggest countries in the world. The United States land area is approximately 3,022,000 square miles, making it the world's fifth-ranking country in size. Canada's land area is 3,845,000 square miles, making it the world's third-ranking country in point of size. The United States consists of 48 states, each of which has its own government, with a federal government at Washington. Canada consists of 10 provinces, each with its own government. In addition, we have the Yukon and the Northwest Territories. Our federal government is located at Ottawa, Ontario — not Ottawa, Ill. In the United States, the state governments and the federal government have various authorities and responsibilities assigned to them by the Constitution, whereas in Canada the various provincial governments and the federal government have their functions defined by the British North America Act.

Your Constitution dates from 1789, whereas ours dates only from 1867. I would gather that your states, quite properly, guard their rights and fields of jurisdiction just as jealously as do our provinces.

Canada's smallest province is Prince Edward Island, with an area of 2,184 square miles, which compares with the land area of your smallest state, Rhode Island, of 1,214 square miles. Our biggest province is Quebec, with an area of 595,000 square miles, as compared with your biggest state, Texas, with an area of 267,000 square miles. Lying north of our provinces, and straddling the Arctic Circle, are the Yukon and the Northwest Territories which, taken together, account for 40 per cent of the land and fresh water area of Canada.

Those are basic features. In addition, every Canadian knows that the United States is bountifully blessed with resources and has a wide variety of climatic conditions and scenery, all of which, when considered in combination, provide your large population of 157 million with abundant opportunities to earn their livings on a standard not equalled by any country in the world.

We Canadians know, too, that American citizenship is cherished by each of your citizens and eagerly sought by so many people living under less favorable conditions. Canadians have perhaps had more reason than other peoples to note with satisfaction and with some pride, and certainly with the greatest of admiration, the manner in which you Americans have assumed the responsibilities that necessarily fell upon you as a result of your phenomenal advancement. We have noted, too, the generosity with which you have shared your blessings with other peoples less fortunate than yourselves.

Here on this south side of the border, your interest in Canada has naturally fallen a good deal short of our interest in you. Canada has not meant the same to Americans as the United States has meant to Canadians. I think you will agree, however, that the history of the last 15 years has encouraged many Americans to take a closer look at their northern neighbor. You may have been reading reports lately about the economic expansion taking place in Canada, particularly in the discovery and development of our natural resources. The story is an important one, not least for what it tells us about the economic interdependence of our two countries.

Let me first say something about the pattern of Canada's development. At the turn of the century our population was approximately 5,500,000. Even now according to the last census it is only a little more

than 14 million, about the same as your state of New York. There is just one Canadian for every 11 Americans. In this half century, however, Canada's economy expanded a good deal faster than her population. While our numbers are less than three times what they were in 1900, the volume of our national output has risen fivefold. The output of our manufacturing industries and the volume of our export-import trade have increased even more than that. The expansion of the Canadian economy has been especially noteworthy since 1939. In the last dozen years, our annual production of goods and services, as a whole, has increased by no less than 90 per cent. Like yours, our industrial growth was hastened by World War II. We have reached the point in our development as an industrial nation where industrial workers outnumber farmers by more than two to one.

When we come to compare the United States and Canada, we are struck by a number of important similarities as well as differences in our economies. Both countries have drawn on immense natural resources to build economies — properly balanced between industrial and rural — which give our peoples the world's highest living standards. But Canada is still at an earlier stage of development than the United States. We are only now in the process of building our first good continuous highway from coast to coast. Again, in relation to our total output, Canada has a much greater stake in foreign trade than you have. Last year, for example, our exports of merchandise accounted for well over one-fifth of our national income. For the United States, the corresponding figure was one-eighteenth of national income. For years now, Canada has been one of the world's great trading nations, and presently ranks fourth after your country, the United Kingdom, and France. On a per capita basis, our exports are exceeded only by New Zealand's. Facts such as these point up the great



M.I.T. Photo

During the Alumni Day Luncheon, a congenial and informal gathering included (clockwise, from opening in foreground) R. Colin Maclaurin, Mrs. Nathaniel M. Sage, '13, Donald W. Kitchin, '19, Mrs. Donald W. Kitchin, Mrs. Robert H. Winters, Mrs. Leicester F. Hamilton, Professor Gordon S. Brown, '31, Professor Leicester F. Hamilton, '14, Robert H. Winters, '33.

interest Canada has in the maintenance and expansion of a free flow of trade with the nations of the world today.

Another difference between us is that today Canadians are devoting more to investment than Americans are, in relation to national output. The great reason for this lies in the relatively greater number of opportunities for resource and industrial development in Canada. To outside eyes, the pace at which we have been discovering and developing our great natural resources no doubt stands out as the most striking and newsworthy feature of Canada's recent economic history. The pattern this development has been following is particularly notable. First of all, important projects are not confined to one or two provinces, but are located from coast to coast, and from our international boundary to the Arctic. Some of the most significant of them are centered on the fringe, and beyond the fringe, of present-day settlement, and involve a continuing discovery of Canada. Some of them are still in what may be described as the "tooling-up stage." If we were to pick them out on the map, they would provide a very neat geography lesson in themselves. Taken together, these developments pay great tribute to the richness and variety of Canada's natural wealth. They are placing new areas in the forefront of Canada's national affairs.

This story of Canada's resource development is of direct and immediate concern to you in the United States and to the free world as a whole. A high percentage of our production of an impressive variety of raw materials and other products has long been shipped to other countries. For more than a decade Canada has been the world's leading exporter of base metals. We produce about 80 per cent of the world's nickel, 28 per cent of its aluminum, half of its platinum, and two-thirds of its asbestos. We rank second in zinc and gold production, third in silver, and fourth in copper. Canada also supplies about 30 per cent of

world exports of wood pulp and 80 per cent of newsprint exports.

The United States has particular cause to be grateful for the wealth of Canada's natural resources and their availability. The products of our mines, fields, and forests contribute not only to your standard of living but to the strength of your defenses. You need our nickel and asbestos. Eighty-five per cent of your newsprint comes from Canadian wood. We supply you with uranium. In these anxious 1950's, Canada's resources have become a bulwark in the defense of a free world whose need for them has grown with its preparations to defend itself. The accelerating pace of their development may be reckoned as a real contribution to our joint defense preparedness. It is partly a joint undertaking of both our countries because a great influx of capital from the United States is providing the means and the stimulus for bringing into production several of the most impressive discoveries of mineral wealth made in Canada in a long while. Let us take a brief look at some of the most important examples of our resource development; but before we do, and lest there be a wrong impression, let me state that we in Canada are financing over 80 per cent of our development. Foreign financing represents less than 20 per cent.

New Development

A new chapter in the history of Canadian iron ore production is now opening in the wilderness along the Quebec-Labrador boundary some hundreds of miles north of the St. Lawrence River. Ore shipments are scheduled to commence in 1954 with an initial annual output of two and a half million tons. But ore can be shipped only after a railway 360 miles long, and built northward over difficult terrain at an estimated cost of \$100,000,000, is completed. Given the St. Lawrence Seaway, production might reach 20 million tons annually. Joined

with other important iron ore developments, especially in Ontario, it could raise our total output of iron ore from the current level of 4,700,000 tons annually to as much as 33,000,000 tons. I believe that in 1950 the United States produced about 110 million tons of iron ore.

Farther west, we come to the extensive nickel-copper deposits at Lynn Lake in the northern part of the province of Manitoba. A 50-million-dollar project now under way there — including a 155-mile railway — is scheduled to result, by 1955, in an annual production of 8,500 tons of nickel and quantities of copper sulphide and scarce cobalt. In Saskatchewan, a townsit

The Honorable Robert H. Winters, '33, Minister of Resources and Development of Canada, delivering his address at the Stein-on-the-Table Banquet at the Statler Hotel in Boston on Alumni Day, 1952.

M.I.T. Photo



growing up around a great uranium deposit at Beaverlodge Lake. In Alberta, there is the impressive oil development which in a bare five years has increased Canadian petroleum production sixfold. In 1947 we produced only 10 per cent of our domestic oil requirements; today our production is close to 50 per cent of our needs and our potential is much greater. The story of Alberta oil is still unfolding. On the Pacific Coast, 400 miles north of Vancouver, British Columbia, abundant water power has induced the Aluminum Company of Canada to embark on a half-billion-dollar project whose first stage will bring in from 80,000 to 100,000 metric tons of new aluminum capacity by 1955. A further stage could increase this capacity to more than 500,000 tons by 1957. Measure this against the 400,000 metric tons, or 28 per cent of the world total, produced in Canada in 1950, and you gain a good conception of how big and important this western development is going to be.

Canada's North

As minister of resources and development, my responsibility for and interest in the Yukon and the Northwest Territories have taken me annually into Canada's Arctic. I have been fascinated by what I saw. Most Americans probably picture these regions as a never-never land locked in eternal ice. Actually, the Arctic circle itself is sometimes visited by 90-degree temperatures in midsummer, although by something else again in deep winter. We are discovering that the Canadian north country is a storehouse of resources. The mining of pitchblende was begun at Port Radium on Great Bear Lake, just 25 miles under the Arctic Circle, as far back as 1933. Farther south, at Yellowknife, on the shore of Great Slave Lake north of the province of Alberta, there has for years been an important gold-mining camp.

At Pine Point, also on Great Slave Lake, there are extensive lead-zinc deposits which are now undergoing thorough exploration as the potential site of a really large-scale mining operation. At Fergusson Lake, in the Eastern Arctic — the home of the Barren Ground caribou — a promising deposit of nickel is about to be given a thorough examination. The search for oil, begun in Alberta, is surging rapidly north into the Territories under the urging of keen interest by your major oil companies. In the Yukon, the historic creeks of the Klondike, which half a century ago yielded their gold to the primitive hand methods of the pioneers who followed the Trail of '98, are now being worked by enormous dredges. East of there, at Mayo, there is already an important base metal production which seems certain to undergo a marked expansion within the next few years. Interesting possibilities exist for other mineral developments in the Yukon where the federal government is building a hydroelectric installation to help them along.

Interrelationship

Altogether it is an impressive story. In the north, as in the rest of Canada, a great deal of exploration remains to be done before we shall be able to judge the extent and the ultimate potential of our resources.

We cannot even guess how the face of Canada will be transformed over the next half century as our people come to know more and more about the richness of their country. Already our recent economic history has prompted the principal of McGill University in Montreal to compare and contrast three "expanding economies." The first of these was in England from the accession of Queen Elizabeth in 1558 to the Great Exhibition of 1851; the second was in the United States from the Civil War to the year 1929; and the third is the present expansion of Canada. Of this he said: "In Canada, the comparable phase of economic expansion can be said to have begun in 1939 and, since we are still in the first flush of intoxication, I am not even going to guess at its terminal date." Your own elder statesman Bernard Baruch said: "If I were a young man today I would go to Canada."

As I suggested earlier, there is good reason why Americans should regard this Canadian expansion, not as something foreign and remote, but rather as something which in one way or another is of direct concern to all of you. It is only natural that the economic interdependence of our two countries should be more keenly realized on the Canadian side of the border, because it has meant more to us than it has to you. The establishment in Canada of well over 2,000 branch plants of American industry has brought us along the road of industrialization at a much quicker pace than we could have achieved by ourselves.

Another measure of the importance of our economic ties with the United States is provided by the fact that in 1951 you supplied 69 per cent of our imports and bought 59 per cent of our exports. But these economic benefits are not, of course, all on one side. Canada has been your best foreign customer for a long while now; last year, for example, we purchased almost three billion dollars worth of American merchandise. Then, as you know, American industry has gained from employing the services of thousands of engineers, physicists, and chemists born and trained in Canada. Again, the heavy northward movement of American capital has been your response to the many opportunities Canada has offered for profitable investment. Considering all this, both the United States and Canada can be grateful for the economic links between our two countries. There are many things about Canada with which Americans are as familiar as we are. It doesn't cause even a raised eyebrow to say, for example, that in the Athabasca tar sands alone, in northern Alberta, there is more oil than in all the known commercial oil reserves of the world put together. It may be a matter of mild surprise to Americans visiting Canada to learn that our dollar is stronger than yours. But perhaps the one thing which — more than anything else — has served to emphasize to you our present capacity, is our willingness, in fact eagerness, to build the St. Lawrence Seaway alone, if we cannot get your help, and to develop our share of its power.

Let us reflect now on how the Second World War and these years of uneasy peace have widened the range of our joint concerns and responsibilities. Canadians and Americans have dedicated themselves to the achievement of a set of common objectives. We

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Facing the Future with Confidence

*It Is within Our Hands To Mold the Future
toward World Peace and Domestic Prosperity*

By LEWIS W. DOUGLAS

The text of this article was originally prepared by Mr. Douglas for delivery to members of the Class of 1952 as the commencement address. Unfortunately, Mr. Douglas was prevented from taking part in commencement exercises because of illness, from which he is making satisfactory and rapid recovery, we are happy to learn. Because of the timeliness and importance of his message to the graduates, The Review takes pleasure in bringing this address to all of its readers.—Ed.

As a special student at M.I.T., I once devoted myself, with inadequate attention and insufficient diligence, to the study of certain of the basic sciences. My stay at the Institute was interrupted by the first great shock which the world was then experiencing. Millions of armed men were grimly facing each other in the immobile trenches of the western front that stretched from the North Sea to the Swiss frontier. For the first time in modern history, all, or most, of the resources of one group of nations were organized to make war against all, or most, of the resources of another group of nation-states. For the first time in modern history, war was beginning to take the form of total war. Into this violent struggle we plunged on April 6, 1917. From the lecture halls of this school I departed posthaste to go to war.

Thoughts of my student days bring back a host of memories. They move me to observe that the passage of time is not the only measure of the striking changes that have occurred in the social, political, and economic matrix of our times. They bring vividly to my mind a picture of what has happened in 35 years, and therefore raise questions which it seems to me are irrevocably linked with the future of America.

On April 6, 1917, we became a participant in the First World War. Soon we were to be joined in battle with the enemy on the soil of Europe and on the waters of many oceans. It was not long before there was general acceptance of the slogan that we were fighting "to make the world safe for democracy." We were led to believe that militarism and governments controlled by absolute monarchs were evil forces that must be crushed if the world were to live again in peace and if mankind were to enjoy the increasingly abundant benefits of freedom and prosperity.

On this issue no compromise was admissible. Peace without victory was inadmissible. And so, through dreary years, men fought and suffered and died while the living were before long to experience the frustration of disillusionment.

Would it not be a strange historical paradox if what we had set out to destroy had been re-established in

a more violent, less rational, less sophisticated, a more dangerous form by our own miscalculations and misunderstandings, and by the discontent, poverty, social dislocations, and emotional waves of nationalism that follow in the wake of war? Certainly one cannot review the period of 1919–1940 with any sense of complacency or confidence in the wisdom of the courses we pursued and those we failed to pursue.

It is instructive for us now to recall the ease with which we fell victims to slogans that became common currency and resulted, among other things, in the dismemberment of great areas of Middle Europe, once capable of supporting themselves and contributing to the welfare of the European community. In place of this successful economic organization we created a collection of little states which, in fruitless efforts to become self-sufficient, sealed themselves off from their neighbors by a variety of artificially created barriers. We treated with indifference the problem of reparations and the effects of wartime commercial and economic dislocations on our ability to restore and maintain a world currency. We reverted to policies of restrictionism incompatible with our wholly novel position of a creditor. We should recall our unwillingness to act when we saw the shadow of war once more cast over Europe in 1936. All of these experiences make one wonder whether we had applied ourselves seriously and calmly enough to the task of obtaining a considered understanding of the problems which the War and the victory following it had raised throughout the world.

Nor can we find much to console us when we examine the arrangements we made and the measures we failed to take during the many phases of World War II, which might have attained a more peaceful world. We had not learned that war was not like a game—something to be won quickly so that everyone could retire to the showers and come out in fresh clothes as though nothing had happened. To contemplate grand wartime strategy as an instrument with which to fashion a postwar environment was considered to be a costly and unnecessary irrelevance.

Balance of power was held to be an outmoded method of preserving the peace; and the Soviet would, we naïvely believed, behave with full consciousness of its status as a friendly partner in the task of healing the great gashes in the social order in the West and of replenishing, in a manner to our liking, the vacuum in Middle Europe and Germany which our policy and our actions were destined to create. And so we launched on the venture of unconditional surrender with consequences for which we may not pay the full price for many years to come.

We consented to agreements which meant, inescapably, the division of Germany and the constant threat to the western sectors of Berlin. Those were to be and still are the major source of uneasiness and trouble throughout Europe. Most of our efforts over the last five years have been aimed at undoing the damage they have wrought. This one arrangement cemented the Soviet in a position from which it could extend its tentacles of fear and subversion to the West and to the Orient. It had the effect of entrenching the Soviet in that geographical tier of Middle Europe that extends generally from the Baltic to the Adriatic.

In the face of a Europe that had been reduced to a state of political impotence and economic impoverishment from which it could recover and rebuild a reasonably satisfactory economic, political, and social estate only by the utilization of all its resources, we adopted a quasi-pastoral policy toward Germany. Soon we began to see the far-reaching costly and dangerous implications of this policy, and from it we began a retreat. Unfortunately, we could not so easily reverse the policies which had brought about the division of Germany.

In Southeast Asia and the Orient, the nationalism which, in part, was the product of long years of preaching, in part the aftermath of Japanese occupation, in part the result of the propaganda so skillfully planted and husbanded by Communist design, caused and is still causing traditional relationships between the East and the West to fall into disrepute, and the colonial system of another day to crumble. In Africa and the Middle East, partly because of ineptness, partly because of natural forces, we are confronted with a wave of nationalism which requires the most delicate and prudent therapeutic treatment.

Possibly all of this was inevitable — inescapable. Perhaps we were moving into this world of confusion and disorder with the unrelenting certainty of a Greek tragedy. But does it not seem more likely that somewhat greater foresight, a more complete understanding during the War of the problems of war and its aftermath, might have produced conditions more malleable and more responsive to maturely considered and wisely executed policy? Certainly Germany need not have been what Germany has become. Certainly we might have planted the flags of the Western Powers in parts of Middle Europe and have preserved some of these areas from Communist *coups d'état*. Certainly it was not inevitable that we view the Communist movement in China as merely another group of agrarian reformers seeking relief only from intolerably oppressive tyranny. Certainly, too, there must have been other alternatives which were open to us and which we were reasonably free to elect.

All of this is not said to be critical of any person or group. At one time or another, excepting for a small number of thoughtful persons, we all played our role in creating out of yesterday the problems of today. It is important, not so much to be critical, but rather to realize how often we have led ourselves astray by the too-easy acceptance of too-persuasive catch phrases which happened to reflect the passing emotions and

unconsidered views of the moment. It is important to review briefly the record so that we can understand how difficult and intractable are some of the problems which we have, in part, created for ourselves and, in part, inherited from the consequences of two great world-wide convulsions. Certainly in modern history there is no record of physical destruction, moral deterioration, and political disintegration, comparable in magnitude, intensity, or extent to those which have been visited on the world during the last 30 years.

It is only by understanding the huge dimensions of the task that lies ahead that we will avoid disillusionment at the slowness with which we seem to be discharging it. For no matter how much one may hope to the contrary, a world which has suffered as much as ours has suffered in the last third of a century cannot reasonably be expected to recover its equilibrium in any short span of time. It is only, too, by appreciating the nature of our problems and their sources that we may perceive that, necessary though they are, arms and arms alone are inadequate solvents of our difficulties. It is easy to rattle the sabers; it is easy to rely on force and more force; it is easy to accept the view that war is inevitable; it is easy so to concentrate on military strength alone that we will stumble into the very war we want so desperately to avoid.

War is no answer to our difficulty. The last 30 years and the consequences, still untallied and unaccounted for, must be a convincing testimonial to anyone who doubts this assertion. It is easy to start a war, but it is hard to stop one. It is still more difficult to employ the all-but-forgotten arts of diplomacy, to detect trouble before it comes to the surface, to be patient and at the same time firm, to pursue con-

(Continued on page 534)

M.I.T. Photo

The Sloan Building at 50 Memorial Drive houses the new School of Industrial Management and, on the top floor, the recently completed M.I.T. Faculty Club.



High Lights of

COMMENCEMENT AND

HIGH-LIGHT events of Alumni Day, 1952, took on an international tinge as more than 1,000 Technology graduates returned to Cambridge to hear President James R. Killian, Jr., '26, record progress during the year at M.I.T., to listen to Robert A. Vogeler, '37, Assistant Vice-president of the International Telephone and Telegraph Company, make a plea to uphold freedom and justice throughout the world, and to attend the annual Stein-on-the-Table Banquet at the Hotel Statler in Boston, where the Honorable Robert H. Winters, '33, Minister of Resources and Development of Canada, related the rapid rise in recent industrial progress in Canada. At the Alumni Day Luncheon, President Killian delivered his "State of the Institute" address, and Alfred T. Glassett, '20, President of the Alumni Association, presented Mr. Vogeler with a class ring from the Alumni Association. For the first time, ladies had their own banquet at which the address by Mrs. Robert A. Vogeler, outlining her valiant struggle in effecting the freedom of her husband, imprisoned for 17 months by Hungarian Communists, won high acclaim. Alumni also had opportunity to visit the newly acquired Sloan Building, housing the School of Industrial Management, and the Faculty Club, the John Thompson Dorrance Laboratory of Biology and Food Technology, to be opened in the fall, and the Metals Processing Laboratory, which was dedicated on June 3.

Taking part in Alumni Day activities were members of the Class of 1952 who, on June 6, held their com-

mencement activities in Rockwell Cage. More than 1,000 candidates received degrees as the climax of events of Senior Week.

Senior Week Activities

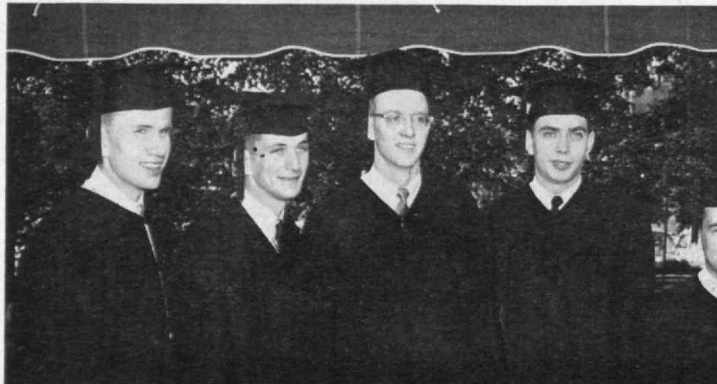
For the Class of 1952, the activities of Senior Week — May 30 through June 6 — began with the annual Senior Ball at the Sheraton Plaza on Friday, May 30. On Saturday evening, May 31, the seniors took a cruise to Nantasket, and this event was followed on Sunday afternoon by an outing of couples at Crane's Beach in Ipswich, Mass.

On the evening of Monday, June 2, Walker Memorial was the scene of the Class Party, and the Senior Stag Banquet was held in Rockwell Cage on Tuesday evening, June 3. No scheduled activities were planned for Wednesday, June 4, which, in most cases, was devoted to final preparations for the climax of events on Thursday, June 5, and especially Friday, June 6.

After the senior class picture was taken on the steps of Building 10 on Thursday afternoon, June 5, the seniors marched up Memorial Drive to Walker Memorial to attend the baccalaureate service. To the organ

Staff representatives of the Class of 1952 included, in usual reading order, Annette G. Bousquet, Alina S. Szczesniak, Patricia A. Wolfe.

All M.I.T. Photos



Taking leading parts in the academic procession during commencement exercises were officers of the Class of 1952. Left to right are William J. Nicholson, Jr., Third Marshal, Robert M. Oliver, First Marshal, Robert M. Briber, President of the Class, Robert R. Schwanhauser, Second Marshal, and Stanley I. Buchin, Secretary.

1952

ALUMNI DAY

rendition of the Coronation March of Meyerbeer's "Le Prophète," the graduating class took its seats, was called to worship by E. Francis Bowditch, Dean of Students, heard President Killian give the Scripture reading from Proverbs 3:13-35, listened to the inspiring baccalaureate address by the Honorable Charles E. Wyzanski, Jr., United States District Judge, was led in prayer by Dean Bowditch, and left the service to the accompaniment of the march from Wagner's "Die Meistersinger." The very stimulating and thought-provoking address which Judge Wyzanski delivered to the graduates appears on page 475 of this issue, where its inspiring message is available to all Review readers.

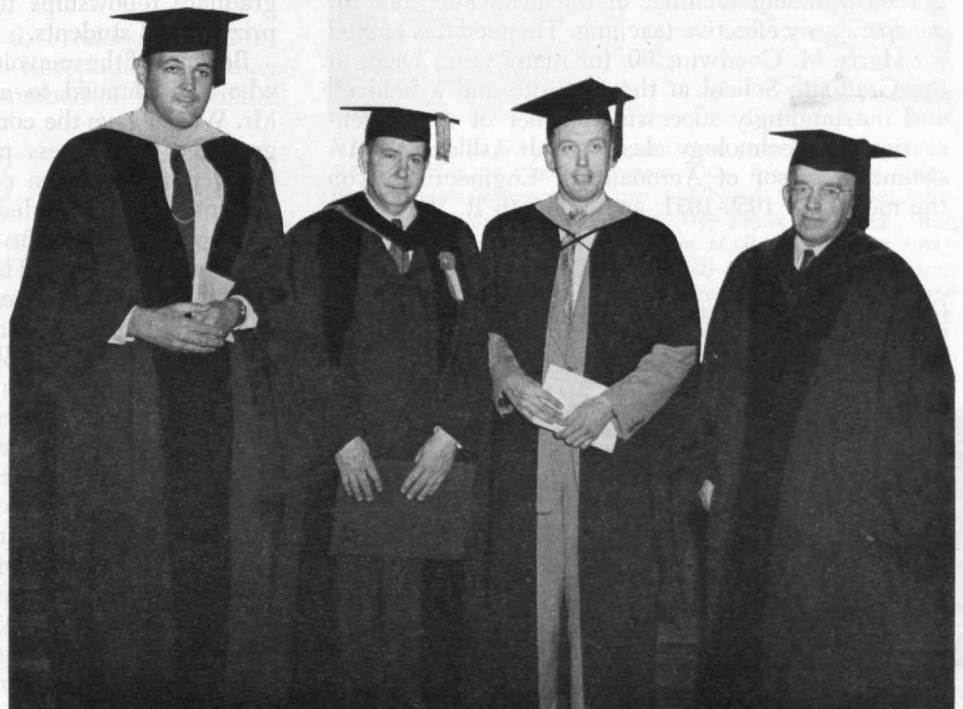
Commencement

Friday, June 6, marked a very special occasion for the 1,043 Technology students and more than 3,000 relatives and friends who attended commencement exercises in the Rockwell Cage. For members of the M.I.T. Corporation, the day's activities began at 8:00 A.M. with a Corporation Breakfast given by Karl T. Compton, chairman of the Corporation. By 10:00 A.M., robing ceremonies were under way in the Cam-

bridge Armory, across Massachusetts Avenue from the main M.I.T. buildings, and adjacent to the Rockwell Cage where graduation exercises began at 10:30 in the morning.

In exercises marking the Institute's 86th graduation, Robert M. Briber, President of the Class of 1952, led the students to their seats in Rockwell Cage. In the procession of candidates for degrees, he was assisted by Stanley I. Buchin, Secretary of the Class of 1952, and by Robert M. Oliver, First Marshal, Robert R. Schwanhauser, Second Marshal, and William J. Nicholson, Jr., Third Marshal. Chief marshal for the academic procession of distinguished guests, representatives of the Class of 1902 and the Class of 1927, and members of the M.I.T. Corporation and Faculty, was Alfred T. Glassett, '20, President of the M.I.T. Alumni Association. The Reverend Gardiner M. Day, rector of Christ Church in Cambridge, gave the invocation, and Edward A. Weeks, Jr., editor of the *Atlantic Monthly*, presented the commencement address in place of Lewis W. Douglas, '17, former ambassador to Great Britain, who was prevented from attending at the last minute by illness. Colonel Charles F. Baish, '21, administered the oath of office to members of the Reserve Officers' Training Corps; Major General Charles G. Helmick presented the Reserve commissions; and President Killian made the presentation of Technology degrees.

By way of statistics, it is interesting to learn that 1,071 degrees were awarded to 1,043 candidates, with 28 candidates receiving two degrees. Among those receiving degrees were five representatives of the distaff side: Mrs. Alina S. Szczesniak of Boston, who took the Sc.D. degree in Food Technology; Josephine B. Raskind of Forest Hills, N.Y., who was awarded the S.M. degree in Biology; and Mrs. Malvina Allen of Cambridge, Annette G. Bousquet of Lexington, and Patricia A. Wolfe of St. Davids, Pa., who received S.B. degrees. Doctorates were awarded to 73 candidates, of whom 35 received the Ph.D. and



Taking part in presentation ceremonies for the Harry M. Goodwin Medal and award for excellence in teaching are (left to right) Holt Ashley, '48, recipient for 1950-1951, President Killian, Kenneth R. Wadleigh, '43, recipient for 1951-1952, and John W. M. Bunker, Dean of the Graduate School, under whose direction the awards were made. The medal is named after the first dean of the Institute's Graduate School.



Informal luncheon was held in Du Pont Court on Commencement Day for graduates and their families. Seated at the head table (left to right) are: Robert M. Briber, President of the Class of 1952; Judge Charles E. Wyzanski, Jr., who delivered the baccalaureate address; Professor Lawrence B. Chapman, '10, who becomes Professor Emeritus; Mrs. Jerome C. Hunsaker; Reverend Gardiner M. Day, rector of Christ Church in Cambridge; Mrs. Karl T. Compton; Charles W. Kellogg, President of the Class of 1902; William H. Carlisle, Jr., '28 (standing in rear); and President Killian. Members of earlier classes, not individually identified, are in the foreground.

38 received the Sc.D. degrees. Advanced engineering degrees went to 53 candidates, master's degrees went to 240 graduates, while 673 received S.B. and 25 received B.Arch. degrees. Reserve commissions went to 94 members of the Officers' Reserve Corps, U.S. Army, and 86 were commissioned as second lieutenants in the U.S. Air Force Reserve.

An important and unusual innovation in the commencement exercises this year was the first presentation of the Goodwin Medal, which is awarded to a graduate-student member of the academic staff for conspicuously effective teaching. The medal is named for Harry M. Goodwin, '90, for many years Dean of the Graduate School at the Institute and a beloved and outstandingly successful teacher of many generations of Technology classes. Holt Ashley, '48, Assistant Professor of Aeronautical Engineering, won the medal for 1950-1951, and Kenneth R. Wadleigh,

'43, Assistant Professor of Mechanical Engineering, won the honor for the year 1951-1952. With the medal award goes a cash prize which, in at least one case, will be used to advance the education of the recipient. The presentations were made by President Killian, who was obviously highly pleased to be able to make public recognition of effective teaching at the Institute, where distinction for research has already received wide acclaim. Other prizes and awards included three postdoctoral research fellowships, graduate fellowships to 75 graduate students, and prizes to 12 students.

Because of the unavoidable absence of Mr. Douglas, who had planned to address the graduating class, Mr. Weeks gave the commencement address. It is regrettable that illness prevented Mr. Douglas from being present at the commencement exercises, but his address is regarded as of such merit that The Review takes pleasure in presenting it to Review readers on page 486. The Review is equally happy to demonstrate the good-neighbor policy to its contemporary, the *Atlantic Monthly*, by publishing the inspiring address of Mr. Weeks on page 479 of this issue, and, as always, to open the pages of The Review to a former editor in presenting President Killian's valedictory address on page 478.

Following commencement exercises in Rockwell Cage, graduates and their families attended the commencement luncheon in Du Pont Court, protected from a bright sun by canvas tents. After the luncheon, Robert M. Briber, President of his class, welcomed guests of the Class of 1952. President Killian extended a welcome from the Faculty and staff and expressed regret that Dr. Compton was prevented from attend-

Dean E. P. Brooks, '17 (extreme left, near side of table) seems to enjoy a good story with Ralph Lowell (center) and Frederick G. Fassett, Jr., Associate Dean of Students.





Other distinguished guests at the head table at the luncheon on Commencement Day, in reading order, were: Edward A. Weeks, Jr., who made the commencement address; Mrs. James R. Killian, Jr.; Redfield Proctor, '02, member of the M.I.T. Corporation; Mrs. Charles W. Kellogg; John W. M. Bunker, who retires as dean of the Graduate School; Mrs. Lawrence B. Chapman; Professor Jerome C. Hunsaker, '12, who retires as head of the Department of Aeronautical Engineering; Godfrey Cabot, '81, member of the M.I.T. Corporation; and Alfred T. Glassett, '20, President of the Alumni Association. Alumni and members of the Administration are at the table in the foreground.

ing graduation exercises because he was then in England to receive an honorary degree from Cambridge University. President Killian also spoke with warmth, mingled with regret, upon the retirement of Professor Jerome C. Hunsaker, '12, Head of the Department of Aeronautical Engineering, Professor Lawrence B. Chapman, '10, of the Department of Naval Architecture and Marine Engineering, and John W. M. Bunker, Dean of the Graduate School, who will assume new duties at the Institute as special adviser to the president.

In the afternoon of June 6, President and Mrs. Killian held the President's Reception at Walker Memorial for graduates and members of their families and guests.

Honorary Secretaries Meet

Sunday, June 7, was a day of pleasurable work for some 165 Honorary Secretaries, educational counselors, club officers, and members of the Institute's staff who gathered at the newly finished Faculty Club in the afternoon for the annual meeting of Honorary Secretaries, at which Julius A. Stratton, '23, Vice-president of the Institute, presided.

Arthur L. Bryant 10-44, Executive Secretary of the Educational Council, told of the formation of the council during the past year. Mr. Bryant announced that nearly 100 young Alumni had been appointed to assist the Honorary Secretaries in offering guidance counsel to those planning to enter the Institute as freshmen, and he outlined present plans for extending the work of this important group. Thomas P. Pitre, Director of Student Aid and Dean of Freshmen,



Members of the 50-year class and their friends gather at the 50-year table on Commencement Day. In clockwise order, from opening in foreground, are: J. Albert Robinson, '02; John R. Marvin, '02; Farley Gannett, '02; Frank D. Allen, '02; Albert A. Haskell, '02; Mrs. William M. Bassett (almost completely hidden); Lewis E. Moore, '02; Mrs. Lewis E. Moore; William M. Bassett, '02; Mrs. Charles W. Kellogg; and Redfield Proctor, '02 (at near side of table, backs to camera). At far side of table, facing the camera, left to right, are: Charles W. Kellogg, '02; Mrs. Alfred W. Allyn; Alfred W. Allyn, '02; Frederick H. Hunter, '02; Alice Hunter Kimball, '36; Burton G. Philbrick, '02; William N. Brown, '02; Mrs. C. Kevitt; Harold A. Everett, '02; Mrs. Arthur L. Collier; Arthur L. Collier, '02.

outlined present plans by which the Institute hopes to take proper account of the economic needs of entering students. Wherever possible, the Institute plans to assist deserving students by means of scholarships, loans from the Technology Loan Fund, and



At the informal luncheon on Alumni Day, head-table guests included, left to right: Robert M. Briber, '52; Mrs. Theodore T. Miller; Frank Cheney, Jr., '82; Mrs. Karl T. Compton; Alfred T. Glassett, '20; Mrs. Robert A. Vogeler; President Killian; and Theodore T. Miller, '22.

by providing employment for those who wish to earn part of their expenses while at the Institute. Dean Pitre pointed out that the Technology Loan Fund had available greater funds for student aid than were being currently used, and emphasized the conclusion reached in Mr. Lobdell's study (*The Technology Review*, February, 1952, page 181) that those students who had sufficient faith in themselves to borrow money for their education made good records for themselves after graduation. Finally, B. Alden Thresher, '20, Director of Admissions, spoke on the work of his office in admitting new students. Professor Thresher took as a good sign the fact that, to date, applications for admission are about 25 per cent ahead of what they had been during the past few years, and indicated that the caliber of applicants was higher than that since the wave of veterans returned to the colleges after the War.

Robert A. Vogeler, '37, autographs an Alumni Day program for Louis A. Freedman, '07.



After dinner, President Killian presided at a meeting at which E. Francis Bowditch, Dean of Students, and John E. Burchard, '23, Dean of the School of Humanities and Social Studies, reported on progress in Technology activities under their direction. Dean Bowditch emphasized the importance of student government and the expanded facilities which are making Technology a truly residential college. Dean Burchard outlined the purpose of the School of Humanities, not as a school to compete with others specializing in the liberal arts, but as a means of assuring that M.I.T. students receive, throughout their four years of study, a sufficient background in nontechnical studies to develop all intellectual disciplines which are required of a well-rounded and well-educated person today.

Take Me Back to Tech

Alumni Day, 1952, drew about 1,000 faithful Alumni and their wives back to Cambridge. After registration at tables set up in the lobby of the Rogers Building, Alumni and their friends were free to attend departmental reunions, the Alumni Day Luncheon, and the President's Reception, and to go into Boston in the evening where separate banquets for the ladies and the men were held at the Hotel Statler.

Nine departments held open-house gatherings from 10:30 A.M. to 12:00 M. In addition, the Metals Processing Laboratory, the Sloan Building (housing the recently completed Faculty Club), and the Dorrance Laboratory of Biology and Food Technology were open for inspection.

At 12:30 P.M., a buffet-style luncheon was served, under canvas, to approximately 1,000 Alumni. Special tables were reserved for the Classes of 1892, 1897, 1902, and 1912 in the Great Court adjacent to the speakers' table. Theodore T. Miller, '22, presided as luncheon chairman.

A surprise high light of the luncheon was the presentation to Robert A. Vogeler, '37, author of *I Was Stalin's Prisoner*, of an M.I.T. class ring to replace the one taken from him during his long imprisonment in Communist Hungary. Mr. Vogeler, Assistant Vice-president of the International Telephone and Telegraph Corporation, was imprisoned in the fall of 1949



Other head-table guests at the informal luncheon on Alumni Day included (in usual order): Theodore T. Miller, '22; Robert A. Vogeler, '37; Mrs. Killian; Karl T. Compton; Miss Pia Eykens; and Claude E. Patch, Secretary of the Class of 1902.

on trumped-up charges of sabotage and espionage by the Hungarian People's Republic. He was then held as hostage for 17 months until ransomed by the United States Government in the spring of 1951. The presentation of the new ring was made to Mr. Vogeler by Alfred T. Glassett, '20, President of the M.I.T. Alumni Association.

Surrender on the Installment Plan

In making his response, Mr. Vogeler observed that just 13 months ago he had returned to the United States, but that his return to Technology climaxed the feeling that he had really come home. He welcomed the opportunity to come to M.I.T. to renew friendships, to see his former instructors and professors, and to take part in Alumni Day — which brought back fond memories. Mr. Vogeler also spoke of his pleasure at being honored with the presentation of a class ring from the Alumni Association, and stated he would always treasure this appreciated gift.

Reunions, said Mr. Vogeler, represent the kind of spirit that has made the United States strong and great, and he spoke of the nation's accomplishments since he had left his studies at the Institute, reiterating that the spirit of co-operation, which he had found at the Institute, was an important element in the national strength.

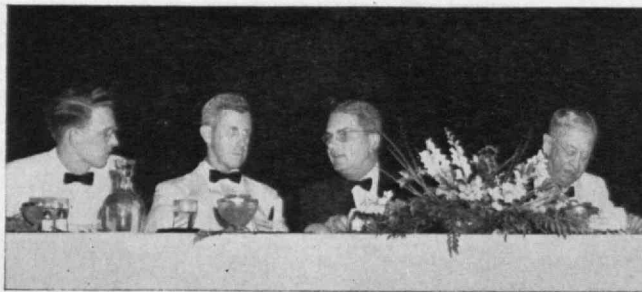
During Mr. Vogeler's six years in Europe, in the period between 1945 and 1951, he had seen history in the making, especially in Austria and Hungary. He had seen countries liberated from Nazi domination and, unfortunately, had witnessed their re-enslavement by the Communists. A definite pattern, which was always of the same form and which has been successful up to the present time, has been followed in taking away freedom of nations. An active minority is depended upon to take every possible advantage to gain ever-increasing strength in national governments, with the aim of extending world-wide communism. In the Iron Curtain countries, Russia had a minority of not more than 20 per cent, but because it was united and active this minority obtained representation in the government assemblies and used its influence effectively. The Communists, said Mr. Vogeler, never give up the idea of world domination. During his trips to the Iron Curtain countries, Mr. Vogeler saw the process

of Communist encroachment in operation time and time again. The Communist minorities advocate the centralization of power, the control of money, and government seizure and control of industries and landed estates. When these steps have been achieved, opposition to further Communist domination can be easily abolished. The thesis of the Communists is that only the state and the people are important; therefore, other institutions which might safeguard personal liberty should be abolished.

Effective means to this end were the suppression of religion; elimination of a press and free speech; complete Communist control of police functions; and new elections, directed by the state-controlled police and held to formalize and legalize such proceedings. The results of such elections, supervised by the secret police, could easily show 98 per cent support of the Communist regime by the simple process of

Alfred T. Glassett, '20, and Mrs. Robert A. Vogeler at the Alumni Day Luncheon.





Head-table guests at the Stein-on-the-Table Banquet at the Hotel Statler included Robert M. Briber, '52; George Warren Smith, '26; Edwin D. Ryer, '20, President of the Alumni Association, 1952-1953; Redfield Proctor, '02, James A. Strong, Consul General of Canada; President Killian; and Robert H. Winters, '33.

intimidating voters, altering ballots, and failing to count votes for the opposition.

Mr. Vogeler saw very clearly many signs of the same process at work in other countries still free, and even in the United States. He had been away from this country for seven years, and the gradual changes which have occurred during that period were more readily apparent to him than to those who had witnessed the process of deterioration take place, chip by chip. He pointed out that emergencies are employed by those in power to impose restrictions and limitations of freedom, but that these restrictions are not removed when the emergency ceases to exist. The high taxes which accompany war and other crises too often result in confiscation of private property, loss of incentive, and weakening of personal freedom.

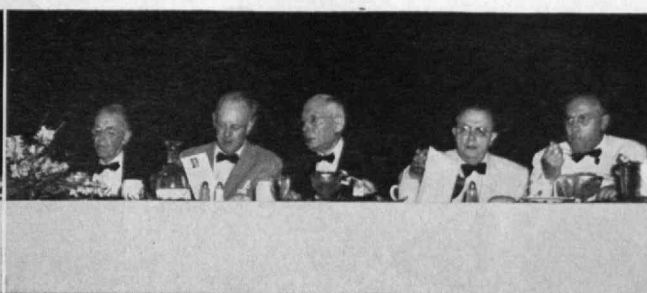
In speaking before Technology Alumni, Mr. Vogeler made it clear that his purpose was partly in fulfillment of a promise he had made to himself during his imprisonment in Communist Hungary — that if he ever got out of prison, he would devote a portion of his time and efforts in telling the meaning of freedom and attempting to awaken his audiences to the dangers now threatening the remaining portions of the free world. He warned that we must maintain the basic principles — safeguarded by the Constitution and the Bill of Rights — by which we, in the United States, have prospered and grown strong. He felt that our people are beginning to recognize the dangers they have been facing, and he expressed

hope, but not optimism, at the nation's present attitude toward the dangers confronting it. We must ever be mindful, he said, that the Communists are dedicated to the destruction of the United States as the last major obstacle toward their aim of world domination. It is up to all of us, individually, to protect the freedoms of our heritage. The principles of 1776 are as true today as when our ancestors won the hard-fought struggle for freedom in the American Revolution.

In conclusion, Mr. Vogeler urged a return to the American way of solving problems by honest self-examination and true co-operation. He urged this nation to become and remain strong, and reminded his audience that force is the only means of persuasion recognized by our enemies. Above all, said Mr. Vogeler, we must establish, maintain, and support policies which are clearly recognized as being in the interests of freedom and justice for all peoples of the world, and which will be understood and trusted by our own people as well as by those in other lands. To a large extent, responsibility for our present situation may be traced directly to the failure of our government to have and support well-thought-out policies on international affairs. As evidence of this statement, Mr. Vogeler pointed out that, whereas in former times an American passport occasioned respect in all parts of the world, in recent years it has been the excuse for heaping abuse on the American citizen. Mr. Vogeler recognized that it was the wish of the Communists to embarrass the United States and show



At the Alumni Banquet, a table was set aside for members of the Institute's Faculty. From opening in foreground, in clockwise order, are Ivan J. Geiger, Director of Athletics; Delbert L. Rhind, Bursar, who was made an honorary member of the Alumni Association; Thomas P. Pitre, Dean of Freshmen; Dr. John W. Chamberlain, '28, Assistant Medical Director; Miles P. Cowen, Assistant to the Superintendent of Buildings and Power; James W. F. MacDonald and Frederick G. Hartwell, both honorary members of the M.I.T. Alumni Association.



To the right of the speaker's rostrum at the Alumni Banquet are (left to right) Alfred T. Glassett, '20; Karl T. Compton; Robert A. Vogeler, '37; Dwight C. Arnold, '27; Claude E. Patch, '02; James A. Lyles, '27; Rudolf F. Haffenreffer, '95; H. E. Lobell, '17; and George W. McCreery, '19.

the world that its present policies would not protect citizens against seizure and imprisonment that resulted in his 17 months of confinement in a Hungarian jail. Mr. Vogeler spoke with regret that his release had been achieved by the payment of ransom, and indicated that he would rather have served 15 years in prison than be the cause of establishing a precedent of appeasement. If the United States is to be strong, it cannot follow a policy of appeasement; for appeasement is merely surrender on the installment plan, he concluded.

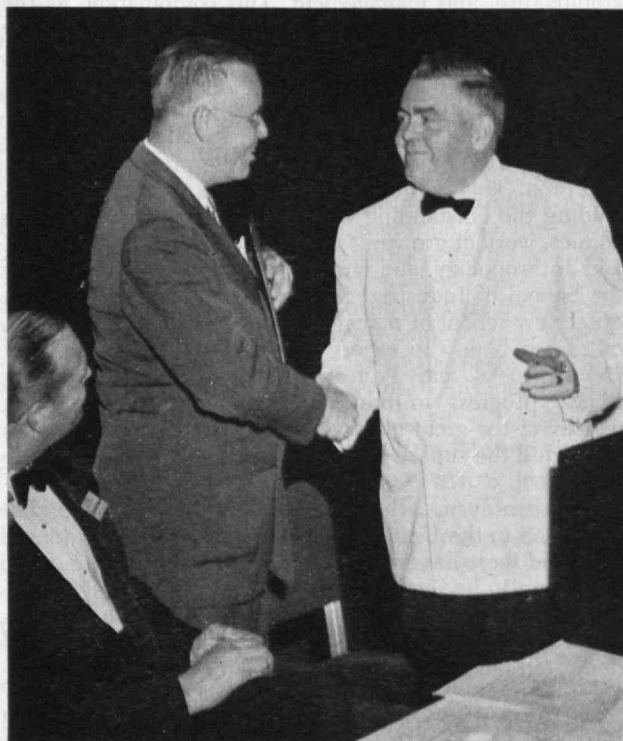
Progress at M.I.T.

Following Mr. Vogeler's forthright address, President Killian spoke briefly of developments at the Institute during the past year, since his last report to Alumni on Alumni Day, 1951.

In his report to the Alumni, Dr. Killian named three principal objectives of the Institute: (1) the enrichment of M.I.T.'s program in general education and in those social sciences appropriate to an institute of technology; (2) the maintenance of the Institute's leadership in undergraduate professional education — in engineering, science, architecture, and management; (3) the achievement of M.I.T.'s goal to become a residential college and the rounding out of the extracurricular environment to make it of maximum educational and spiritual value to the students. Then, continued President Killian:

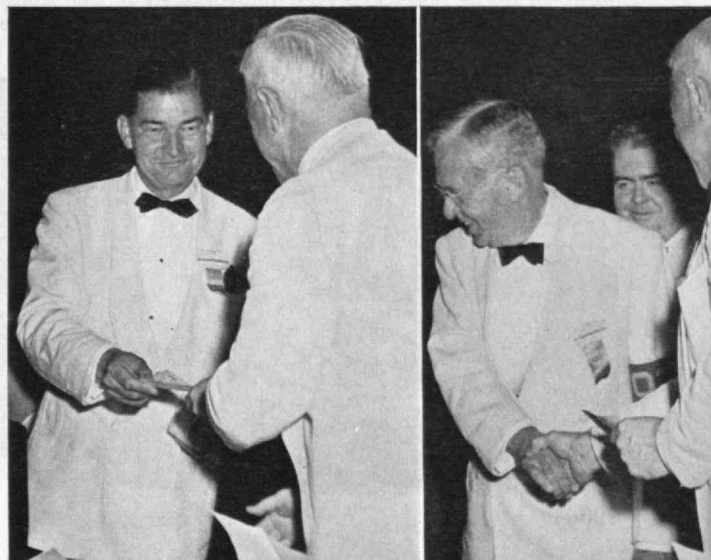
In consonance with these three aims, and in order to provide the means to achieve them, we have kept our sights on still another target—the funding of M.I.T.'s independence and its future, and the provision of new educational and research facilities in order to realize new educational opportunities. My remarks today bear upon these objectives.

During the past year the Faculty approved a new four-year integrated program in general education. The significant aspects of this new program, other than its imaginative content, are the high intellectual standards required and the rich fare available at the Institute for our students. The strength of this special program in general education, coupled with the general educational values of our professional subjects themselves, combine to afford our students an undergraduate education at once deep and broad. Because of our fine faculty in the humanities and the social sciences, we have the resources of a strong liberal arts college to couple with the professional standards



Delbert L. Rhind (center, above) receives a certificate of honorary membership in the Alumni Association from Alfred T. Glassett, '20.

(Below) Dwight C. Arnold, '27 (left panel), and Redfield Proctor, '02, present 25-year and 50-year gifts to Karl T. Compton.





Many of Technology's early students come back to Alumni Day, year after year. Renewing old acquaintances at the '82-'91 table are: Samuel S. Dearborn, '84 (left); George A. Packard, '90; Carl H. Bunker, '91; Harry H. Young, '91; and J. Linfield Damon, '91; (right).

and motivation of our great schools of science, engineering, architecture, and management. This combination, as the Institute has demonstrated in the past, has great power and is peculiarly appropriate to meet the educational needs of our modern industrial society.

As we have developed our general education, we have continued in the development of the social sciences which gained so much momentum under the presidency of Dr. Compton. This is coming to fruition in several forms, including the outstanding work of our Department of Economics, work of growing interest in sociology, psychology, and anthropology, and most recently the establishment of the School of Industrial Management. The creation of a great new school of management is not an overnight job, but I am happy to report that under the leadership of Dean Brooks and Professor Robnett, we are making steady progress in building the faculty and program worthy of the great gifts which the Sloan Foundation has made and the superb building which it made available to the school. . . .

In recent years, the greatest developments in higher education in the United States have come at the graduate level and there has been some tendency for undergraduate education to be neglected in favor of the more attractive opportunities of advanced teaching and research. As a result, there has been a decreased emphasis on inspired and dedicated teaching and a decreased recognition of the importance of inspired teaching.

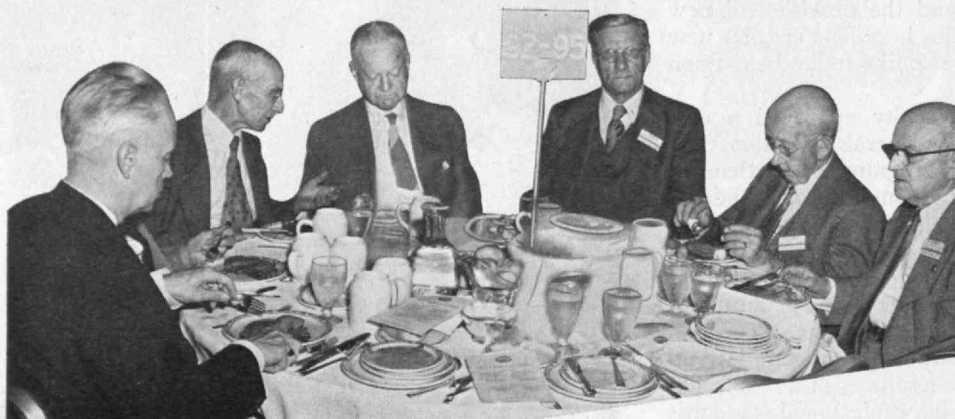
At M.I.T. we have always felt the undergraduate school to be the very core of our total program. Within our present phase we are taking pains to make sure that we are still making creative contributions to the art of undergraduate teaching and that we are providing the best kind of environment and incentive to the teacher who teaches undergraduates with scholarship, professional standards, and inspiring skill. The teacher who can set a young man's mind on fire is more precious than rubies and fine gold. Happily, we have a number at M.I.T. and we seek to give

them the backing and the opportunity to exert their maximum influence. . . .

An undergraduate engineering school has much to gain from being attached to a strong graduate school and in an environment where research of contemporary importance is going on. But mere physical propinquity is not enough. Ways must be devised to make the association one that impinges in a vital way on the college experience of the undergraduate. One way of meeting this problem and at the same time drawing outstanding members of our professional staff into the work of the undergraduate years, would be to find ways of providing for undergraduate participation in the professional work of interest to the teacher. As a result of this year's discussions, ways are now being explored for making this possible. . . .

Coupled with efforts to afford the undergraduate more opportunity to show creative capacity and initiative in the classroom and laboratory is our effort to afford him a comparable opportunity in his community life here at the Institute. Now that we have adequate dormitories and a more integrated campus, we are in a much better position to do this and to build upon the long and prized tradition of student self-government. I am convinced that we have something priceless in the conviction on the part of our student body that they should be free to manage their own affairs. We need this kind of conviction in preparing young people for life in our American democracy. We need young people with the concept that government in a democracy is not something to be petitioned, but something they are a part of. The problem in any college in maintaining this free spirit is to make it possible for the students to exercise the necessary amount of self-restraint to make their freedom workable.

Week in and week out at the Institute we see the interplay of this desire for freedom with the problem of self-restraint, and this, too, is an educational experience of the first order for our students.



Chronologically out of place at this table is Erwin H. Schell, '12 (left). Others at the '92-'95 table are: Edward M. Hunt, '94 (hidden by Professor Schell); Leonard B. Buchanan, '93; Edward Page, '93; Harry J. Carlson, '92; Arthur J. Ober, '92; and Edwin C. Alden, '95.

This octet from the 50-year class includes (in clockwise order from opening in foreground): Ambrose F. Bourneuf, '02; Burton G. Philbrick, '02 (hidden by Mr. Bourneuf); Dana H. Fisher, '02; Arthur L. Collier, '02; Charles W. Kellogg, '02; Henry H. Saylor, '02; Farley Gannett, '02; and Kenneth C. Grant, '02.



Let me cite two examples of how our Development Program is continuing to bring gifts to the Institute. During this past year, your Alumni Fund had its most successful year, raising the greatest amount of money and having the highest average contribution in its history. It did this despite the fact that some 3,500 Alumni, who were still contributing to the Development Program, were not solicited. This is a fine achievement which I delight in speaking about and in thanking you of the Alumni Association for bringing about.

The second piece of evidence is the total gifts and bequests to the Institute for the current year. Outside of the Development Program and the years in which Mr. Eastman gave his gifts, this past fiscal year we have received the largest amount of money ever received in the history of the Institute, a total of \$6,605,260.

Of this total, \$1,645,392 came as partial payment on the bequest from Sylvia A. H. G. Wilks and a million dollars from the Alfred P. Sloan Foundation as a research fund for the School of Industrial Management. This million dollars from the Alfred P. Sloan Foundation brings the total gifts to the Institute of Mr. Sloan and the Alfred P. Sloan Foundation to over eight and one-half million dollars.

An important contribution to our educational objectives during the past year has been the establishment by the Edwin Sibley Webster Foundation of the Edwin Sibley Webster Professorship of Electrical Engineering, and the creation, by the Pittsburgh Plate Glass Company, of a Professorship in Physics of the Solid State. Such professorships inaugurate a new and highly significant departure in the Institute's teaching program which, it is hoped, can be expanded by additional support in the future.

We therefore have reason to be proud and happy over the loyalty and the confidence in this institution which is reflected in the individual gifts and the great total of gifts which we have received. We have reason to feel

that we are well on our way to acquiring the resources which a dynamic institution needs to keep itself creative and effective. Two weeks ago, the Standing Committee on Development of the Corporation met to discuss the sustained year-in-and-year-out development activities of the Institute. This Committee reviewed the Institute's continuing needs and the ways in which we can meet them. It concluded that we should have no intensive campaign within the foreseeable future but a sustained effort year after year to get new capital resources for the Institute. Finally, it validated an objective to seek in this manner some \$20,000,000 additional permanent funds and \$12,000,000 for special facilities over the next five years. This is a measure of this committee's conviction as to the importance of the Institute's service to the nation and to the practicality of its planning in terms of this magnitude.

Following President Killian's address, Alumni spent the remaining portion of the afternoon inspecting new buildings, attending a reception at the President's House, and in predinner social gatherings, usually by classes, at the Hotel Statler.

At 7:00 P.M., the ladies held their own banquet with an inspiring program at which Mrs. Robert A. Vogeler related her experiences in seeking to have her husband released from his imprisonment.

Mrs. Vogeler drew a vivid and dramatic word picture of the grueling experience from November 18, 1949, when her husband was overdue from a brief business trip to Budapest from Vienna, until the spring of 1951, when he was finally released from his Communist imprisonment.

When she ascertained, through the Occupation Army, that her husband had not recrossed the border, Mrs. Vogeler determined that he must not be a "for-

Half a century back, these men were just beginning their professional careers. In usual order are: Fred D. Lawley, '00; Stanley G. H. Fitch, '00; Charles A. Newhall, '00; Elbert G. Allen, '00; and Percy R. Ziegler, '00, at the Alumni banquet.





Members of the Class of 1927, returning after a quarter century since leaving M.I.T., filled several tables at the Alumni Day Banquet. At one table, where attention seems divided, are (around the table from foreground opening): Robert W. Carr, '27; Edward Chase, '27; Hector A. Moineau, '27; James T. Chirurg, '27; Laurence H. Coffin, '27; Frank Massa, '27; Ralph W. Stober, '27; and George W. Bergcan, '27.

gotten man." With courage and adroitness, she sought the assistance of President Truman by telegram, and of Dean Acheson, in person; she created an economic crisis in Hungarian cotton manufacture by diverting shipments of American cotton, hoping thus to prove that if a mere woman could hurt Hungarian economy in a small way, then the United States could make Russia heel.

Mrs. Vogeler's plea was for a clear-cut foreign policy for the United States, which would make unnecessary the humiliating ransoming of American citizens; for a strong America to enforce international justice; and for an aroused citizenry which, especially in 1952, takes its voting privileges seriously.

Alumni Banquet

More than 900 Alumni gathered in the Imperial Ballroom in the Hotel Statler at 7:00 P.M. for their annual Stein-on-the-Table Banquet as the climax of Alumni Day activities. When the dinner was concluded, Alfred T. Glassett, '20, introduced those who had come the longest distance to attend the banquet. Representatives from Canada, Mexico, Cuba, Puerto Rico, Norway, and Japan stood up to take their bows in this introduction.

For the 25-year class, Dwight C. Arnold, '27, presented a check for \$160,000, and Redfield Proctor, '02, made presentation of \$169,859 as the 50-year class gift. Both generous gifts were gratefully accepted on behalf of the Corporation by Dr. Compton, who turned them over to President Killian.

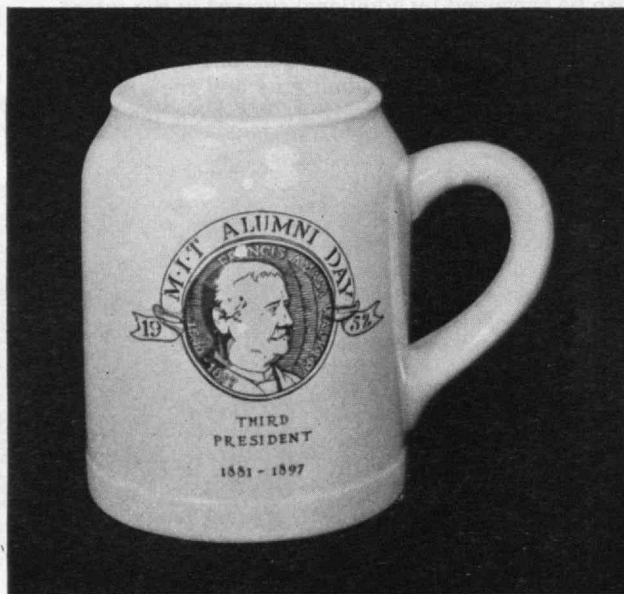
During the banquet, the Institute acquired a new Alumnus when honorary membership in the M.I.T. Alumni Association was conferred upon Delbert L. Rhind, Bursar of the Institute. Mr. Glassett presented the certificate of honorary membership, and brief but sincere response was made by Mr. Rhind, whose well-known beaming smile attested to his pleasure at joining the small and distinguished group of honorary members of the Alumni Association.

Toastmaster Glassett then called on the Honorable Robert H. Winters, '33, Minister of Resources and Development of Canada, who spoke on "Canada and the United States: Distinctions and Similarities." The address of Mr. Winters, urging even closer cooperation than has been evident in the past between

these two good neighbors, appears on page 482 of this issue.

President Killian concluded the day's events with brief remarks. Although there has been, and still is, a man-power shortage in scientists and engineers, President Killian said he felt this situation was being recognized and gradually overcome. The fact that the Institute has a 25 per cent increase in applications for entrance seems to indicate that this shortage will be met. President Killian also spoke of the new opportunities the Institute would have to make contributions to industrial management through opening, in the fall, of the new School of Industrial Management. President Killian paid tribute to E. P. Brooks, '17, in the formation of the new school, and expressed satisfaction with Dean Brooks's proposal to establish a "Chair of Profits" in recognition of the fact that the nation's growth and development depended so much upon the stimuli to incentive which comes from allowing each man to benefit from the fruits of his own efforts.

As Orville B. Denison, '11, led the singing to the accompaniment of organ music by Harry U. Camp, '18, more than 900 Alumni left the ballroom, clutching the highly prized steins, designed by Henry B. Kane, '24, without which no Technology Alumni Banquet is complete.



THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Alumni Ratification

GAINING a march on the national political contests of the summer, by conducting a ballot in the spring, Alumni of the Institute have ratified the nominees for office in the Alumni Association for the year 1952-1953. The polls, which closed on April 25, indicated that Edwin D. Ryer, '20, had been elected president; Dwight C. Arnold, '27, vice-president; Stanley C. Dunning, '17, and Theodore T. Miller, '22, members of the Executive Committee. Mr. Ryer will hold office for a one-year term, and Messrs. Arnold, Dunning, and Miller for a two-year term. The Alumni officers assumed their new duties on July 1, 1952.

To the roster of Technology men who become alumni term members on the Institute's Corporation, the election confirms Everett S. Coldwell, '15, Alfred T. Glassett, '20, and William L. Stewart, Jr., '23, to serve for a period of five years.

Elected, for three years, as members of the National Nominating Committee for their respective districts are: Raymond H. Blanchard, '17, for District 1; A. Russell Pierce, Jr., '31, for District 2; Whitworth Ferguson, '22,* for District 4; and Saxton W. Fletcher, '18, for District 5.

Classes whose numerals end in three or eight elected members to serve as Class Representatives on the Alumni Council for a period of five years. Representation for their respective classes will be by: Frederic H. Keyes, '93, Edward S. Chapin, '98, Ichabod F. Atwood, '03, Joseph W. Wattles, 3d, '08, R. Charles Thompson, '13, Frederick B. Philbrick,

*For District 4, the majority vote was polled by Leon L. McGrady, '17, whose untimely death occurred on April 4, 1952. Consequently, membership on the committee falls to Mr. Ferguson who received the second highest vote.

'18, George A. Johnson, '23, Arthur A. Nichols, '28, Richard S. Morse, '33, Albert O. Wilson, Jr., '38, Frederick G. Perry, Jr., '43, and Richard H. Harris, '48.

Cast in good order were 2,908 ballots for the above slate of officers and representatives of the Alumni Association whose capabilities are manifest by their selection.

M.I.T., Inc.

ELECTION of two life members and three alumni term members to the Corporation of the Institute was announced by President Killian on June 9. The life members are James McGowan, Jr., '08, of Beach Haven, N.J., and H. B. Richmond, '14, of Winchester, Mass.

Mr. McGowan is president and chairman of the board of the Campbell Soup Company and a trustee of Nutrition Foundation. He has been serving as an alumni term member of the M.I.T. Corporation and has long been interested in the development of the food technology program at the Institute.

Mr. Richmond is chairman of the board and Management Committee of the General Radio Company of Cambridge. In 1948, he received the Medal for Merit for service as chief of the Guided Missiles Division of the National Defense Research Committee during World War II. Mr. Richmond was alumni term member of the M.I.T. Corporation from 1933-1938 and from 1939-1944, and president of the Alumni Association from 1938-1939.

Term members nominated by the Alumni Association and elected at the June 6 meeting of the Corporation are Everett S. Coldwell, '15, of Bronxville, N.Y., Alfred T. Glassett, '20, of Hartsdale, N.Y., and William L. Stewart, Jr., '23, of Pasadena, Calif.



Photograph by Shelburne

H. B. Richmond, '14
Life Member of the Corporation



James McGowan, Jr., '08
Life Member of the Corporation



Fabian Bachrach

Edward D. Ryer, '20
President of the Alumni Association



M.I.T. Photo

The new Metals Processing Laboratory, which was dedicated on June 3, is this five-story building with additional penthouse recreational lounge, which connects with the Guggenheim Aeronautical Laboratory, a portion of which is shown at the extreme right. The scientific and engineering studies to be undertaken in this well-equipped laboratory will be under the direction of the Departments of Metallurgy and Mechanical Engineering.

Science in Metals Processing

DEDICATION exercises for the new Metals Processing Laboratory building at the Institute were held on June 3. The new building, provided by a gift of \$1,000,000 from the Alfred P. Sloan Foundation, Inc., is completely equipped for teaching and research in all types of metal-forming and machine-tool work.

Principal addresses of the morning program were given by Alfred P. Sloan, Jr., '95, chairman of the board of General Motors Corporation; Technology's President James R. Killian, Jr., '26; Thomas K. Sherwood, '24, Dean of Engineering; C. Richard Soderberg, '20, Head of the Department of Mechanical Engineering; and John Chipman, Head of the Department of Metallurgy.

In the afternoon, a survey of the teaching and research activities in metals processing at M.I.T. was presented in two concurrent sessions: "Mechanical Metallurgy," under the chairmanship of Professor Carl F. Floe, '35, Assistant Provost and member of the Department of Metallurgy; and "Machine Tool Engineering and Metal Cutting," under the chairmanship of Milton C. Shaw, Associate Professor of Mechanical Engineering.

The dedication-day program was followed, on June 4 and 5, by a two-day technical conference on metal cutting which featured speakers of national reputation in the metal-cutting field.

Faculty Club Welcomes Council

THE 290th meeting of the Alumni Council, held on May 26, was called to order at the recently completed M.I.T. Faculty Club in the Sloan Building by Alfred T. Glassett, '20, retiring President of the Association. As regular items of business set before the 119 members and guests of the Council, the minutes of the April 28 meeting were approved, results of the election were reported (and are published as the opening item in this section of *The Review*), recent changes in class affiliations were announced, and, as reported by Donald P. Severance, '38, Secretary, 13 members of the Technology family visited 11 M.I.T. clubs between April 30 and May 23. Nominations for committees were presented and approved by the Council, and Delbert L. Rhind, Bursar of M.I.T., was nominated for honorary membership in the Alumni Association.

Mr. Severance concluded his announcements by stating that the Executive Committee had asked Hugh S. Ferguson, '23, Vice-president of the Association, to serve as chairman of a committee to make recommendations toward strengthening the relationship between the Association and former students who have attended M.I.T. only as graduate students.

Mr. Glassett called upon President Killian who summarized events of the recent meeting of the M.I.T. Club of Philadelphia when Pierre S. du Pont, '90,

During dedication ceremonies on June 3, facilities of the Metals Processing Laboratory were inspected (left to right) by: Prescott A. Smith, '35, Associate Professor of Mechanical Engineering; Technology's President, James R. Killian, Jr., '26; Professor C. Richard Soderberg, '20, Head of the Department of Mechanical Engineering; Alfred P. Sloan, Jr., '95, who made the presentation address; Milton C. Shaw, Associate Professor of Mechanical Engineering; and Thomas K. Sherwood, '24, Dean of Engineering.



M.I.T. Photo

made available his Longwood Gardens to 660 Technology Alumni and their friends who attended. President Killian presented a factual account of recent student pranks, which was far less spectacular than the exaggerated newspaper stories. Finally, President Killian announced an increase in the tuition at the Institute, to take effect one year from this fall.

Klaus Liepmann, Associate Professor of Music at M.I.T., was next introduced by Mr. Glassett. Professor Liepmann spoke of the aim to further an interest in music by students and Faculty members at M.I.T. At present this is being accomplished in three ways. First of all, the availability in the Music Lounge of books, scores, and 12,000 records which have an annual circulation of 32,000, provides desirable musical surroundings at the Institute. In addition, courses in music appreciation, as part of the program in the humanities, have been attended by surprisingly large groups of students. Finally, many musical extracurricular activities are available at the Institute.

As final speaker of the evening, Professor Max F. Millikan, Director of the Center for International Studies at M.I.T., was introduced by Mr. Glassett. Originally charged with the responsibility of investigating means for increasing the effectiveness of the "Voice of America" radio transmissions, the work of the Center for International Studies quickly expanded to a more extensive and fundamental examination of all communication facilities. Broadcasting, for example, represents but a tiny fragment of the information disseminated within Iron Curtain countries, and the rumor network is exceedingly effective.

Up to the present time, the work of the Center may be succinctly summarized under four topics. In the Western countries sufficient recognition is not given to the fact that the actions of Western countries are very much more important than any propaganda which might be transmitted by radio or other means. Moreover, too little attention has been given to the background and to the aspirations of the people we

wish to influence. As a third point, the action and the attitude of people close to, but not within, the Iron Curtain are of great significance in advancing the cause of democracy. Finally, it should be recognized that people all over the world are far more interested in the attitude of the United States and the possibility of an ulterior motive than the immediate availability of aid in the form of money or goods; this requires a well-planned and well-understood foreign policy rather than diplomacy based on expediency.

George B. Waterhouse: 1883-1952

GEORGE B. WATERHOUSE, Emeritus Professor of Process Metallurgy, died on May 10. Dr. Waterhouse, who was a widely known authority on metals and alloys, joined the Institute's Faculty with the rank of professor in 1922 and retired in 1945.

Born in Sheffield, England, on May 25, 1883, Dr. Waterhouse attended the University of Sheffield, where he received the degree of bachelor of metallurgy in 1901. He received the degree of doctor of philosophy from Columbia University in 1907, the honorary degree of doctor of metallurgy from the University of Sheffield in 1937, and the honorary degree of doctor of science from the Nova Scotia Technical College in 1949.

Dr. Waterhouse was naturalized as an American citizen in 1910. Before coming to the Institute, he served with the Lackawanna Steel Company as metallurgist and inspection engineer, and in World War I he was a first lieutenant with the 74th Regiment, New York National Guard. During World War II, he was special staff consultant, Office of Production Management (1941); a member of the Steel Division of the War Production Board (1941-1942); and with the Office of Foreign Economics Administration (1943-1945). He was a consulting engineer for the United States Bureau of Mines and, from 1920-1943, chairman of the Metallurgical Advisory Committee of the United States Bureau of Standards.

Scholarship Aid and Tuition

AN increase in tuition of \$100 per academic year, beginning in the fall of 1953 at the Institute, has been announced by President James R. Killian, Jr. The increase, which has been voted by the Executive Committee of the Corporation, will take effect with the opening of the fall term in 1953 and will bring the Institute's comprehensive tuition, including all fees, to \$900 for an academic year.

The 12½ per cent increase in tuition will be accompanied by an increase of more than 50 per cent in funds available for scholarship aid. In addition, loans up to a total of \$300,000 a year can be made to qualified applicants out of the Institute's revolving Loan Fund, the largest in any American college. In making the announcement of increase, Dr. Killian said:

Since 1939-1940, the Institute's operating expenses have risen more than 80 per cent. The over-all increase in tuition since that time, including the new increase, amounts to 50 per cent and thus goes only part way toward meeting the higher costs. A recent survey of college fees showed that a representative list of endowed institutions have reported increases averaging 76 per cent since 1939-1940. The Institute's percentage increase in tuition is thus less than the average, despite the fact that scientific and engineering education is more expensive because of the extensive laboratories and elaborate equipment required. M.I.T. continues its long-standing policy of having a single comprehensive tuition which includes the fees which are usually additional charges, such as athletic, medical, matriculation, and diploma fees.

Except for increasing scholarship funds, we shall apply the additional income to cover necessary increases in salaries and wages which have already been given to enable our personnel to meet rises in the cost of living, and to enable M.I.T. to maintain an outstanding faculty. Even with the increase in tuition it will be necessary for the Institute to depend heavily upon gifts for current expenses in order to avoid deficits, for the student will be paying less than half the cost of his education, the rest being met by income from endowment and other sources. A careful analysis reveals that the tuition payment now covers a smaller proportion of the cost of education than at any time in recent years.

In recent years we have received many additions to our scholarship funds by gifts and bequests, and these funds, supplemented by a special allotment from the increased fees, and the Technology Loan Fund will meet any increased needs for student aid resulting from the higher tuition. The number of available scholarship awards will be increased by 25 per cent, and the average amount per award will be increased by about the same amount.

In his announcement, President Killian spoke also of the Administration's determination to adhere to the ideal of continually maintaining M.I.T. as one of the independent institutions in a position of leadership in engineering, science, architecture, and industrial management. He emphasized the importance of this ideal in view of trends which threaten the independence of endowed institutions. "It is becoming increasingly important," Dr. Killian said, "that a certain number of private and independent educational institutions should maintain positions of unquestioned leadership, and thus set standards of achievement and freedom for all higher education."

Overseas Summer Fellowships

THE award of 20 traveling fellowships for professional work in science, engineering, and architecture in Europe during the summer of 1952 to graduate students of Technology has been announced by President Killian.

The students awarded M.I.T. overseas summer fellowships, and their destinations, are as follows:

Frank B. Cuff, Jr., '51, III, Metallwork Plansee, Austria
Alve J. Erickson, G., II, Aeronautical Research Institute, Sweden
Olivia A. Hammerle, G., XX, Swedish Institute for Food Preservation Research, Sweden
George W. Hughes, G., VI-A, English Electric Company, England
Kenneth R. Kruger, '51, IV-A, Stockholm Town Planning Board, Sweden
Max V. Mathews, G., VI, ASEA Company, Sweden
Raymond H. Morth, G., VI-A, Institute for High Tension Research, Sweden
John R. Paulling, Jr., '52, XIII, Lindholmen Shipyard Company, Sweden
Robert J. Pelletier, '51, IV, Grenfell, Baines and Hargreaves, England
Rose M. Pratt, G., XVI, Royal Institute of Technology, Sweden
Ross R. Quincy, '50, X, Royal Dutch Shell Laboratory, Netherlands
Herbert C. Ratz, G., VI, ASEA Company, Sweden
Richard D. Sharp, '52, VIII, Metallographic Institute, Sweden
Paul H. Skogstad, '52, XVI, Aeronautical Research Institute, Sweden
Robert A. Summers, 6-46, XVI, Royal Institute of Technology, Sweden
Richard D. Thornton, G., VI, Institute for High Tension Research, Sweden
George L. Turin, G., VI-A, English Electric Company, England
Hugh A. Watson, G., VIII, Institute for High Tension Research, Sweden
William Weaver, Jr., G., I, Jac B. Eide, Consulting Engineers, Norway
Leonard Weissbein, G., II, Swedish Textiles Research Institute, Sweden

At a luncheon given in honor of the M.I.T. Fellows by the Institute's Foreign Study Committee, President Killian also announced the receipt of a grant of \$10,000 from the Alfred P. Sloan Foundation, Inc., in support of this year's fellowship program.

President Killian stated that the purpose of these traveling fellowships, arranged under the direction of Professor Norman J. Padelford of the Department of Economics and Social Science at M.I.T., and a committee of seven faculty members, is "to enrich the Institute's customary graduate training by giving a few highly qualified students an opportunity of associating intimately for a period of time with some of the outstanding scientists and engineers in Europe who are carrying on especially notable work in their fields." Adding the belief that "the leading graduates of our scientific institutions should have some personal appreciation of economic and social conditions in other parts of the world and of America's relationship to them," President Killian said he hoped this program "will make a small contribution to the further growth of understanding between countries."

Lowell Institute Graduates 55

MAYNARD M. BORING, Manager of the Technical Personnel Divisions of the General Electrical Company and Senior Vice-president of the American Society for Engineering Education, delivered the principal address at the 48th graduation exercises of the Lowell Institute School in Huntington Hall at M.I.T.

Ralph Lowell, President of the Boston Safe Deposit and Trust Company and sole trustee of the Lowell Institute School, awarded certificates to the graduates; and George R. Harrison, Dean of Science at M.I.T., under whose auspices the Lowell Institute School operates, delivered the greetings of President Killian and the M.I.T. Corporation.

The Charles Francis Park Medal, which bears the name of the first director of the school and is awarded for excellence in the course, was presented by Dr. Lowell to Raphael Ernest Montanari of 79 Etna Street, Brighton, Mass. Mr. Montanari is a process engineer with the Raytheon Manufacturing Company. The citation accompanying the Park Medal was read by Robert B. Cheney, '20, a member of the Mechanical Engineering staff at M.I.T. and Secretary of the Lowell Institute alumni group. Arthur L. Townsend, '13, Director of the Lowell Institute School and Associate Professor of Mechanical Engineering at M.I.T., presided.

The history of the Lowell Institute, and its long association with M.I.T. were outlined in an article by Arthur L. Townsend in the December, 1951, issue of *The Review* (page 85).

Joseph S. Newell: 1897-1952

JOSEPH S. NEWELL, '19, Secretary of the Faculty and Executive Officer of the Department of Aeronautical Engineering since 1946, died at his home on May 5. Professor Newell was widely recognized as an authority on the structural design of aircraft and was the originator of certain standard methods of stress analysis used in the aircraft industry.

Born in Springfield, Mass., on August 10, 1897, Professor Newell was the son of Frederick William and Emma Freeman Shipley Newell. After his graduation from the Institute with the degree of bachelor of science in Civil Engineering in 1919, Professor Newell spent a year as a draftsman in Argentina. In 1920-1921, he was an assistant in the Department of Civil Engineering at M.I.T. and then served for five years as an assistant aerostructural engineer at McCook Field in Dayton, Ohio. He returned to the Institute as an instructor in Civil Engineering in 1927, and in the following year was promoted to assistant professor. Transferred to the Department of Aeronautical Engineering in 1929, he was promoted to associate professor in 1930, and to professor of aeronautical structural engineering in 1939.

Professor Newell was made a fellow of the Institute of Aeronautical Sciences in 1937. He served on several committees of the National Advisory Committee for Aeronautics and had acted as consultant to the Bureau of Air Commerce, United States Department of Commerce, as well as to several aircraft companies. He was a member of Sigma Xi.

Athletic High Lights

EDWARD A. MELAIKA, '53, Commodore-Elect of the M.I.T. Nautical Association, won the right to represent the United States in the singlehanded Finn class races at the Olympic Games, to be held August 20 to 28 in Helsinki, Finland. With a total of 68 points to the 67 points for the runner-up, Lawrence Conover of Dartmouth, Melaika was the best in the field of 21 representatives from all over the United States. Howard H. Fawcett, Jr., '52, Retiring Commodore of the Nautical Association, and Richard Besse, official representative of the U.S. Navy, finished in a tie for third place with 66 points.

Followers of the sport of yachting will recall that Ralph L. Evans, Jr., '48, of the M.I.T. Nautical Association, represented the United States in the monotype class races in the 1948 Olympics. Mr. Evans, who is now flying jet planes from a Navy carrier in Korean waters, finished second in the 1948 Olympics.

Since the initiation of its dinghy fleet in 1935, Technology has taken a leading part in intercollegiate sailing. The boats, which have seen hard service on the Charles River and elsewhere, are shortly to be replaced with new hulls of glass fiber. Already the first boat of the new fleet has been delivered, and was exhibited in the Great Court on Alumni Day, June 9. Surrounded by flags of New England college yacht clubs, the sleek hull attracted many favorable comments from alumni yachtsmen. The boat was rigged and launched on Wednesday, June 11, shipped to New London, Conn., to be on exhibit during the Olympic trials, and then sent by trailer to Toledo for



M.I.T. Photo

Technology's President Killian derives genuine satisfaction from a new shell, named in his honor, and provided by the Major Briggs Fund.

the national championships for the Henry A. Morss Trophy. The first of the glass boats has been enthusiastically greeted by all who have seen it, and is the gift of George Owen, '94, who designed the old as well as the new fleet. It will be called "The Whirl," in honor of Professor Owen's first boat. The new design should go a long way toward fulfilling the objective of the Nautical Association, whose desire is to see the design become the universal sailboat used in American colleges.

In a special ceremony at the M.I.T. Boat House, following the baccalaureate service on June 5, a new shell, purchased through funds provided from the Major Briggs Fund, and delivered by George Pocock of Seattle, Wash., has been named the James R. Killian, Jr., in honor of the Institute's president.

Charles G. Vickers, '52, has been named recipient of the Class of 1948's Outstanding Athlete Award, as best exemplifying the desired traits of character, leadership, athletic achievement, and improvement in athletics at the Institute. Mr. Vickers was a member of the Varsity Cross-Country and Indoor and Outdoor Track Teams, winning a varsity letter in each sport each of the past three years. The high light of his career came this year when he won the 880-yard run for the New England Intercollegiate Amateur Athletic Association championship in the good time of one minute, 54.9 seconds. It may be added that M.I.T. placed first in this event for each of the past four years, becoming the first school to win this distinction four years in succession since the establishment of the competition 65 years ago.

The lacrosse team enjoyed one of its most successful seasons in years in winning more than half its contests. At the same time, the freshman lacrosse squad also completed a very successful season which should indicate that this sport should enjoy successful competitions for the next few years.

Patrick Manning, rigger at the Boat House for 31 years, and popular with members of the crew and crew alumni, has retired on July 1. Members of the Boat Club, as well as Alumni who have been active in crew activities, presented Mr. Manning with a gift of cash and a bound copy of letters as a token of appreciation for his long and faithful service to the Technology crew.



M.I.T. Photo

Walter C. Wood, '17, Technology Sailing Master, assists Edward A. Melaika, '53, Commodore-Elect, and Howard H. Fawcett, Jr., '52, Retiring Commodore, in launching the first of the Fiberglas dinghies to be put into service on the Charles River.

Radioana

AN important collection of manuscript and printed material, documenting the development of radio and the growth of the radio industry, was dedicated at the Institute as the RCA-Clark Collection of Radioana. The equivalent of approximately 5,000 volumes, the collection forms a documentary record of over half a century in its field with the greatest emphasis on the period from 1900-1935.

Among diverse materials of the collection, which was presented to M.I.T. by the Radio Corporation of America, are research reports, logbooks, correspondence files and records of several early radio compa-

(Continued on page 506)



Beams of satisfaction greet delivery of the first of the Fiberglas boats to make up the new sailing fleet. In order, from prow to stern, are: Robert W. Imrie, '53; Walter C. Wood, '17, Sailing Master; Herbert J. Brun, '53, Treasurer of the Nautical Association; Edward A. Melaika, '53, Commodore, who will sail in the monotype races at the Olympics; George Owen, '94, designer of the new craft and donor of the first boat; Nico H. Roos, G.; Jerome Reed; and Howard H. Fawcett, Jr., '52, Retiring Commodore of the Nautical Association.

M.I.T. Photo

BUSINESS IN MOTION

To our Colleagues in American Business ...

There is a saying that is as famous as it is erroneous. It is the one about the better mousetrap. The fact is that if anyone develops a new, improved mousetrap he has to beat his own path to people's homes. In other words, he has to sell if he is to prosper. In selling the more effective trap, it should be realized, he has rendered a service not only to himself and to his employees, but also to the buyer.

Revere thinks this is a good time to point out that salesmen render service to customers, and to give some thought to the functions and values of salesmanship. If by salesmanship we mean everything that influences sales, then of course we must include advertising and many other factors. However, except in the case of a product sold by mail, all the elements in salesmanship lead up to a single point, the contact between a salesman and a customer or prospect. During that interview, the salesman takes advantage of all that has been done previously to help him.

Why do people buy from one man rather than another, from one company instead of another? Revere has discovered through long experience and observation that loyal customers are created and held when the salesman and those back of him take a sincere and informed interest in the buyer's welfare. In Revere this may mean recommending and selling a less expensive alloy if it will serve as well as a more expensive one. Or it may involve suggesting use of an extruded shape, costing more per pound than plain bar, but saving important sums by reducing costly machining operations. And so on.

It is easy to recognize that such activities come under the head of "service." They are also a part of salesmanship, which renders other services as well. It is a service, we feel, to tell people about products, what they are, what they will do, what benefits they offer, how much they cost, how they should be speci-

fied, when they can be delivered. It is also a service to offer solutions to problems. In rendering such services, a salesman needs much more than a price list. He must have a firm background, derived from education, training and experience in his industry, and in addition must be able to discuss intelligently and constructively the problems of the people he serves. A sales force thus equipped, such as Revere has, can give directly or through the company's engineering service a kind of collaboration that is valuable but

is not billed. If buyers had to dig out all the facts they need without the assistance of salesmen, American industry and the general public as well would be greatly hampered in seeking the best values obtainable.

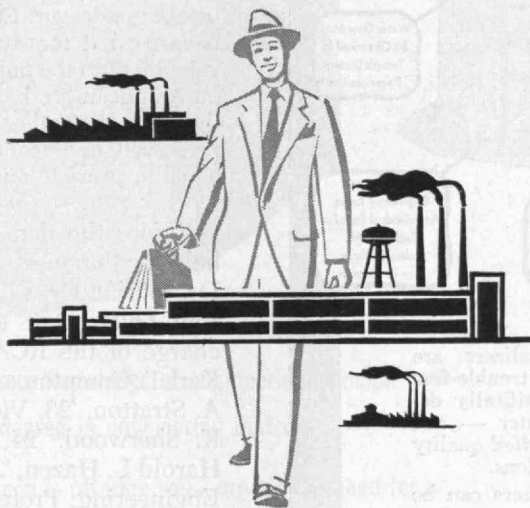
The salesman is part of a great team that has given this country more prosperity and standards of living higher than ever enjoyed anywhere else in the world. Other factors in achieving this amazing result include inventiveness, better design and engineering, faster and more economical production, the skills of management and factory employees, the editorial and advertising contributions of the thousands of helpful American publications. While we give credit to all these elements, let us not forget that productive capacity is increasing constantly, and that to move larger volumes of goods more capable salesmen and more effective salesmanship will be necessary. In the future, we believe the salesman who serves as well as sells will become more and more important, for only through sales can factories and employees be kept busy. Whenever and whatever you buy, remember that you can always find salesmen who, like those who serve the Revere customers, consider the best interests of their clients as carefully as their own. So we suggest you take your suppliers' salesmen into your confidence, and permit them to serve you fully.

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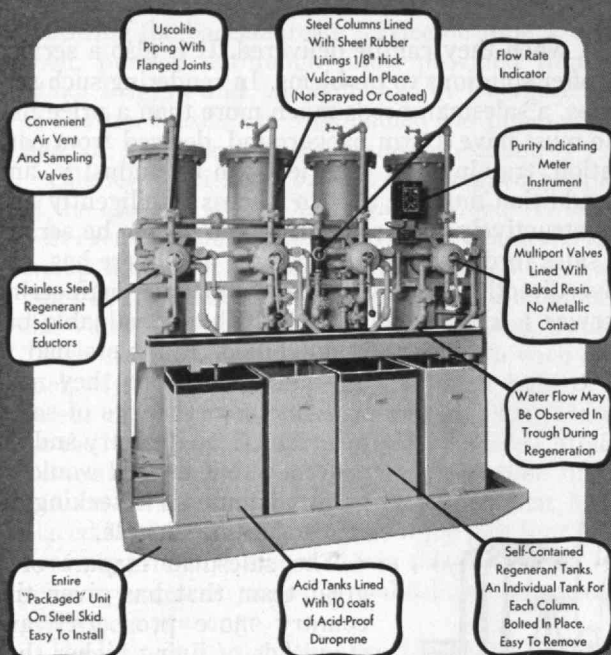
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THE INSTITUTE GAZETTE

(Continued from page 504)

nies, specifications, and unpublished biographies. The great names and pioneers of wireless and radio are also represented.

The collection was begun by George H. Clark before his graduation from M.I.T. in 1903. Mr. Clark was associated with several of the early engineers, inventors, and companies in the radio field. After serving in the Navy from 1908-1918, he joined the Radio Corporation of America and continued his collection with the active support and encouragement of RCA.

The presentation at the dedication was made by Charles B. Jolliffe, Vice-president and Technical Director of the Radio Corporation of America. President Killian accepted for the Institute. In commenting on the importance of the collection, Vernon D. Tate, Director of Libraries at M.I.T., said:

The RCA-Clark Collection stands as an important pioneer endeavor. Economists, historians, and others who have used it for studies ranging from technological development to the impact of the applications of technology on American life have found it a mine of information. If the records of other fields of technology can be similarly preserved and made available, they will contribute in equal measure to our future national growth and welfare.

Before the dedication ceremony, a luncheon was held for the guests. Present, in addition to Mr. Clark, Dr. Jolliffe, Dr. Killian, and Dr. Tate, were Arthur F. Van Dyck, staff assistant to the vice-president in charge of the RCA Laboratories; and, from M.I.T., Karl T. Compton, chairman of the Corporation; Julius A. Stratton, '23, Vice-president and Provost; Thomas K. Sherwood, '24, Dean of Engineering; Professor Harold L. Hazen, '24, of the Department of Electrical Engineering; Professor Gordon S. Brown, '31, of the Department of Electrical Engineering; Professor W. Rupert Maclaurin of the Department of Economics and Social Science; and Robert E. Booth, associate librarian at M.I.T.

Mechanics Empowered

THE Visiting Committee on the Department of Mechanical Engineering,* under the chairmanship of Thomas H. West, '22, met on December 4, 1951. Charles A. Chayne, '19, Andrey A. Potter, '03, L. K. Sillcox, and Max L. Waterman, '13, were present for the entire day. Redfield Proctor, '02, and John A. Lunn, '17, attended the morning session only. After a session of the Committee itself, the group visited the newly organized Machine Tool and Metal Cutting Division, where Milton C. Shaw, Associate Professor of Mechanical Engineering (also Head of the Division), and several of his associates presented a résumé of some of their recent research work. A visit was also made to the new quarters of this Division, the new
(Continued on page 508)

*Members of this Committee for 1951-1952 are: Thomas H. West, 3d, '22, chairman, Redfield Proctor, '02, Andrey A. Potter, '03, Max L. Waterman, '13, John A. Lunn, '17, Charles A. Chayne, '19, Alexander C. Monteith and L. K. Sillcox.

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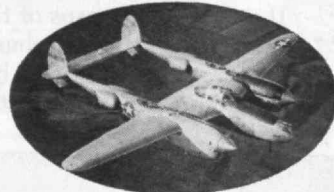
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THE INSTITUTE GAZETTE

(Continued from page 506)

Metals Processing Laboratory. The Visiting Committee were unanimous in their impression that the members of the staff involved had given very thorough study to the layout of the laboratory with highly commendable results.

After luncheon, the Committee adjourned for the business meeting which was attended by James R. Killian, Jr., '26, President, Julius A. Stratton, '23, Vice-president and Provost, Thomas K. Sherwood, '24, Dean of Engineering, and many of the faculty members of the Department of Mechanical Engineering. The following report is a brief condensation of the essential items which were carefully discussed.

In discussing methods of promoting effectiveness of teaching methods, professional development, and related topics, Dean Potter emphasized the significance of some form of rating procedure, participation in outside activities, financial support for visits to other institutions, travel for professional purposes in general, and exchange arrangements with American and foreign universities and institutions. Professor C. Richard Soderberg, '20, Head of the Department, pointed out that the Department is doing some of these things.

It was the consensus of the Committee that encouragement be given to exchange arrangements, not only with foreign institutions but also with some of the outstanding American institutions.

Professor John A. Hrones, '34, presented a report on the present status of the curriculum review for the Department of Mechanical Engineering which has been under consideration for the last few years. The most significant change, which materially enlarged the elective program of the fourth year, was initiated last year. The revised curriculum has now been in operation since the beginning of the present academic year (1951-1952), and the general impressions of its workings are very favorable. It is now proposed that another step be taken which will have as its objective a reduction in the applied mechanics program, making it possible to move fundamental subjects to the earlier years, releasing time for professional work in the later years. In particular, it is suggested that the applied mechanics subjects be changed from six to four during the sophomore and junior years, and that the subject, "Strength of Materials," be moved to the sophomore year.

It was the consensus of the Visiting Committee that the new curriculum is a very constructive step, and the Committee recommended that the Department proceed with the initiation of the proposed changes to complete the program.

There have been many worth-while developments for a considerable period aimed at an improvement in the quality of laboratory instruction. William A. Wilson, Associate Professor of Mechanical Engineering, has devoted the major part of his time to this problem during the last two years and presented a report in which he outlined briefly the present plan

(Continued on page 510)

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THE INSTITUTE GAZETTE

(Continued from page 508)

of the engineering laboratory courses and discussed the use of the case method in laboratory teaching. It is worth observing that the case method is now used to varying degrees in other parts of the Department as well.

The Visiting Committee expressed its enthusiastic approval of these efforts to improve laboratory instruction and wishes to give it effective support.

In the matter of developing the ability of self-expression, the Committee feels that training in written reports will be much improved by the above measures. Training in oral expression may have to depend on personal and extracurricular activities, but should not be entirely lost sight of in working out the educational program.

William M. Murray, '33, Associate Professor of Mechanical Engineering, gave a summary of the present status of the Co-operative Program II-B. It was shown that whereas the total number of students participating in the program has declined, the percentage has increased.

The Visiting Committee expressed its enthusiastic approval of this method of giving practical experience to students prior to the professional work of the fourth year and the hope that it could be extended to a larger number of students.

(Continued on page 512)

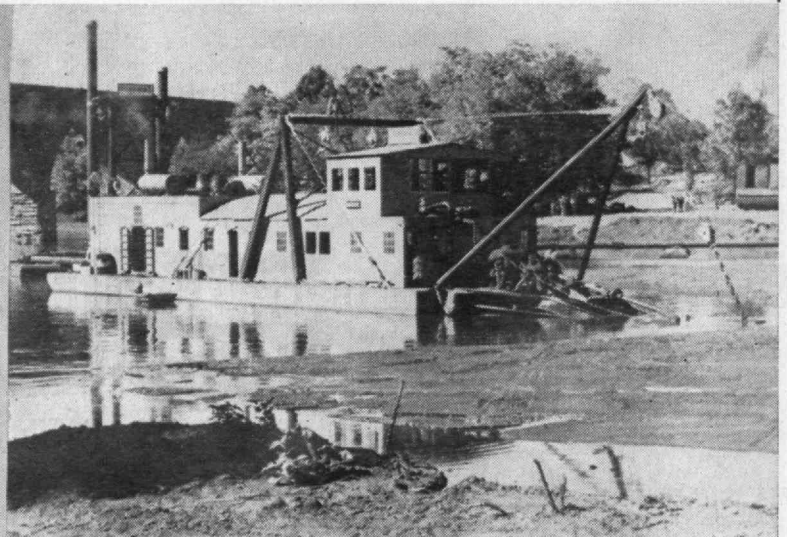
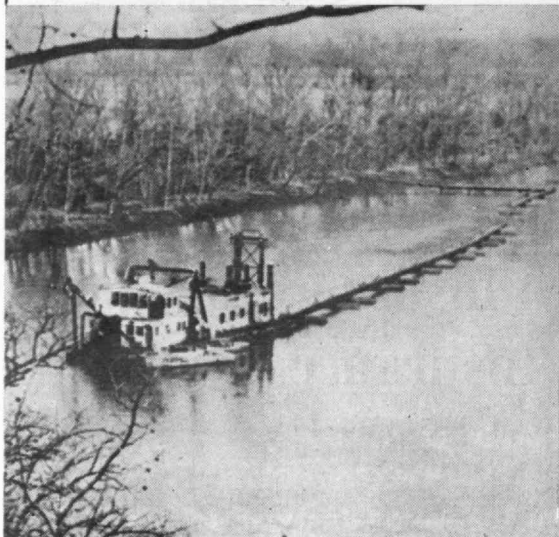
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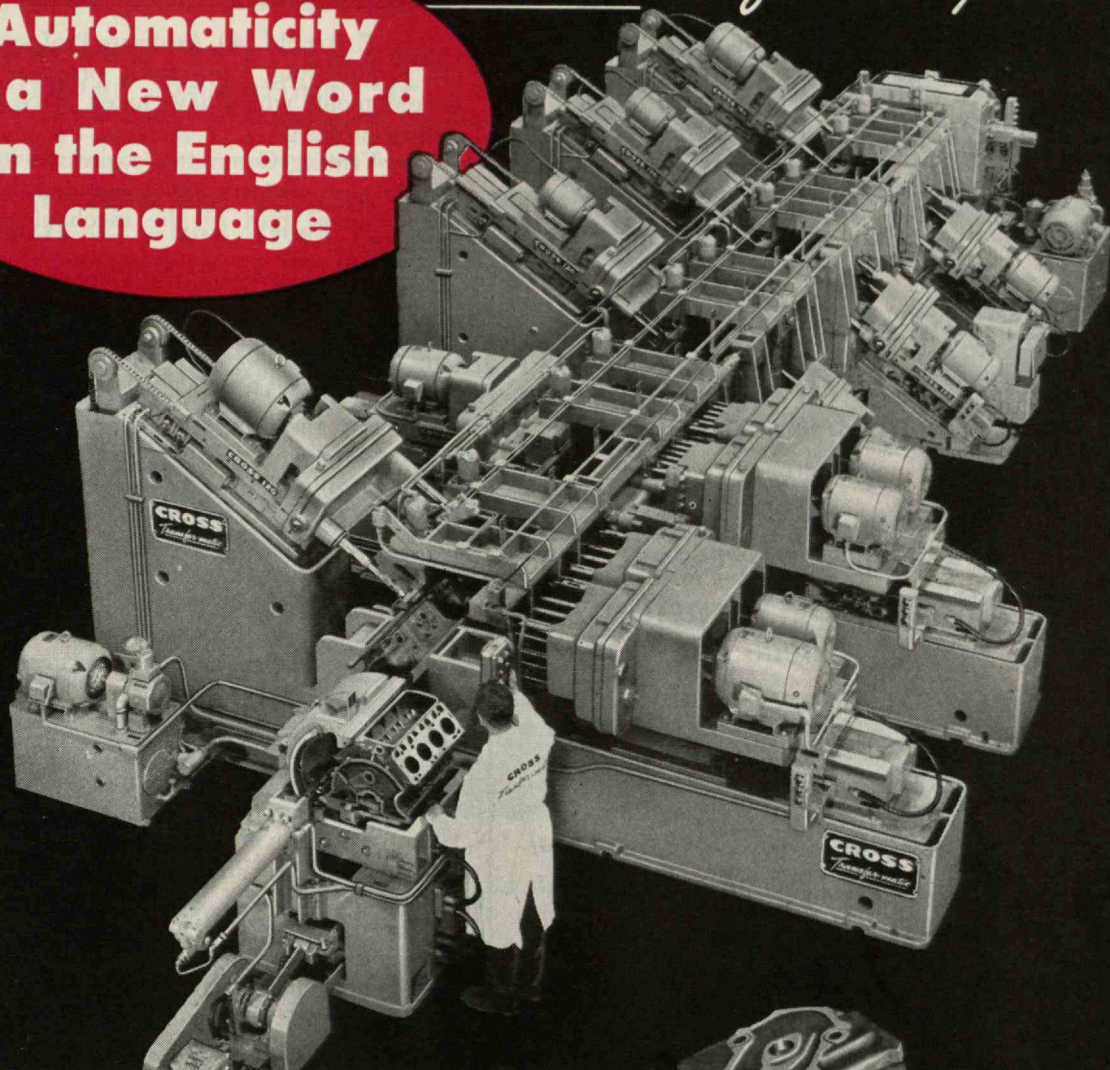
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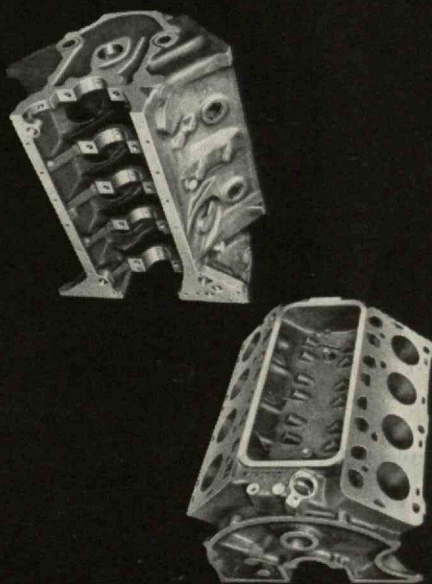
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THE INSTITUTE GAZETTE

(Continued from page 510)

John E. Arnold, '40, Associate Professor of Mechanical Engineering, presented a progress report of the developments which have taken place in the field of industrial design.

The Visiting Committee expressed its approval of this development and recommended that it be made a permanent part of the mechanical engineering electives.

During recent years, the Department has become aware that there is little in the curriculum to give the student an idea of the professional world in which he will make his living. The Department has been searching for suitable ways of doing something in this respect. At the present time a senior subject, "Problems in Mechanical Engineering," is in part devoted to this problem. This covers, among other things, a review of the history of mechanical engineering, particularly the early phases, leading up to the development of the steam engine.

The possibility of assigning a small part of the available time in the sophomore year to similar programs has been considered, but a suitable medium has not yet been found.

The Visiting Committee expressed its conviction that these efforts to make the students aware of the significance of their training as a development toward professional life are very important and should be supported as actively as possible. This applies to the Co-operative Program as well as to the work of the senior year.

Professor Jacob P. Den Hartog presented a summary of the problems which are now facing the Graduate School, particularly the problem of adequately recognizing the difference in objectives between the mechanical engineer's degree and the doctor's degree.

The Visiting Committee recommended that this be made one of the major topics at its next meeting.

Dr. Sillcox had prepared a statement of underlying philosophy of education. The limited time made it impossible to have any extended discussion of the important points raised in this memorandum, but the Committee wished to express its sincere belief that a well-defined philosophy of education is one of the most effective methods of insuring outstanding teaching methods.

(Continued on page 514)

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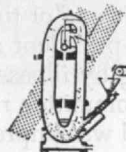
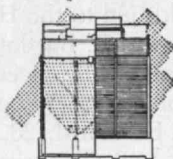
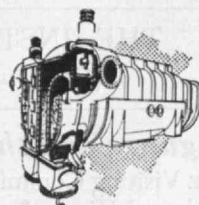
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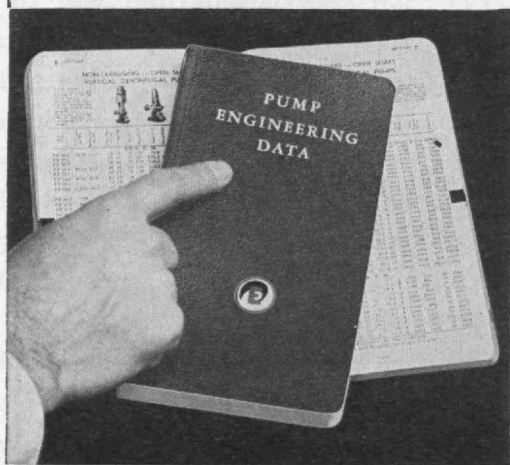


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THE INSTITUTE GAZETTE

(Continued from page 512)

Language and the Professions

THE Visiting Committee on the Department of English and History* met with a representative group of the faculty of the Department on April 13, 1951. Members of the Committee attending the meeting were Messrs. Gabriel, Henderson, Pierce, Lunn, and Bugbee. Absent because of conflicting engagements but participating in this report by correspondence were Messrs. Brophy and Herskovits.

In addition to the Head of the Department, Professor Howard R. Bartlett, and some 14 members of the Department, the meeting was honored by the active participation of: James R. Killian, Jr., '26, President; John E. Burchard, '23, Dean of Humanities and Social Studies; and, for a portion of the time, Karl T. Compton, Chairman of the Corporation. Julius A. Stratton, '23, Vice-president and Provost, was prevented from attending by illness.

The Committee reviewed the work of the Department and was impressed with the extent of its activities. A two-year course of Introduction to the Humanities and Social Sciences is being offered to freshmen and sophomores as a "core" upon which material from history, literature, anthropology, sociology, psychol-

*Members of this Committee for 1950-1951 were: Harold Bugbee, '20, chairman, Thomas D. Brophy, '16, John A. Lunn, '17, Marvin Pierce, '18, Donald A. Henderson, '25, Ralph H. Gabriel, and M. J. Herskovits.

ogy, economics, and political science can be welded into an integrated whole. Such a course would give the student a better understanding of his society than could be obtained by studying the same courses in an unrelated manner. It also enables third- and fourth-year students to concentrate on any of these topics, devoting at least three terms of study to the selected area.

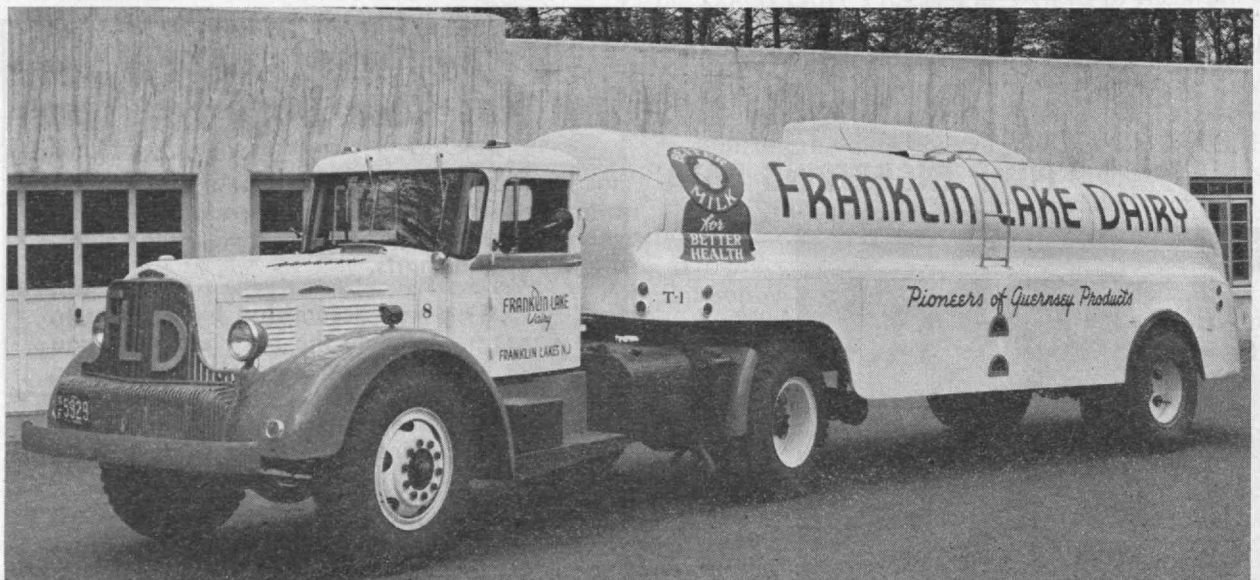
The Department of English and History is co-operating with the professional departments in maintaining emphasis upon written and oral expression throughout the four years of undergraduate study.

The Department has also proposed that study of the industrial revolution be focused on a single community, and several booklets by members of the Department are in preparation as a means of fulfilling this objective.

A monumental piece of research currently in progress is the compilation and publication of *The Letters of Theodore Roosevelt*, of which two volumes have already been published under the direction of Professor Elting E. Morison, Associate Professor of English. Another research project is gathering material and writing the history of the first iron works in America at Saugus, Mass.

The work in music at M.I.T. under the able and inspiring direction of Klaus Liepmann, Associate Professor of Music, is worthy of a complete report in itself. Enormously popular with the students, the Committee guarantees that every member of the Corporation and Alumni who have not seen with their own

(Continued on page 516)



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W. C. Schoolfield...1932	D. E. Robinson....1946
J. S. Bucknam.....1934	A. F. Litchfield...1946
H. A. Wood.....1934	Harry M. Graham..1948
J. B. Schliemann...1936	D. B. King.....1948
Gail H. Swan.....1939	J. T. Madden.....1949
T. M. Salamandra.1940	C. O. Miller.....1949
Paul L. Alberti....1940	Wayne Carter.....1949
Ed R. Harris.....1940	R. A. Fisette.....1950
Ben Scott.....1941	A. B. Bower.....1951
William R. Foley..1942	R. E. Maine.....1951
Conrad A. Lau....1942	A. W. Shaw.....1951
John E. Stevens...1944	W. G. Stanfield...1951
J. J. Welch.....1951	

CHANCE VOUGHT AIRCRAFT

DIVISION OF UNITED AIRCRAFT CORPORATION

DALLAS, TEXAS

THE INSTITUTE GAZETTE

(Continued from page 514)

eyes the music reproduction facilities now operating in the Hayden Library should no longer deprive themselves of that pleasure.

A Carnegie Foundation grant of \$150,000 to be spent over the next five years for general education will assist in developing the new program in the School of Humanities and Social Studies. The possibility of establishing a new course at the Institute in the Natural and Social Sciences is endorsed by this Committee. Students would devote half their time in this course to basic subjects in science and engineering, and the other half of the time to subjects in the humanities and social sciences. Such a course would provide graduates with a good understanding of our present technological and social system, but would also serve as an adequate basis for more advanced work in either field.

In summary, the Committee made the following observations:

1. The Department's facilities and staff are at a peak level in the period of major transition resulting from the new emphasis on general education and the humanities sparked by the report of the Committee on Educational Survey. That this transition is having a stimulating and altogether healthy effect on the faculty of the Department is most apparent.

2. Most significant was the feeling on the part of the faculty leaders that the new responsibility and the renewed importance of the Department of English and History at M.I.T. would succeed in both attracting and holding the highest caliber of teaching talent.

3. The Department of English and History will cooperate with the professional departments in maintaining emphasis upon effective written and oral expression throughout the four years. By such procedure full advantage can be taken of the student's increased awareness of the importance of clear communication as he becomes involved in professional problems. Work along this line has already been started with the Department of Electrical Engineering and the findings and methods developed there are to be applied one by one to other departments as rapidly as English Department facilities and other department co-operation permits. The Committee regards this as of great practical value and urges that its progress be prosecuted with all possible vigor.

(Continued on page 518)

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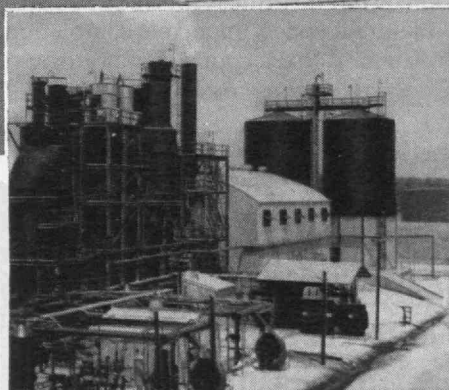
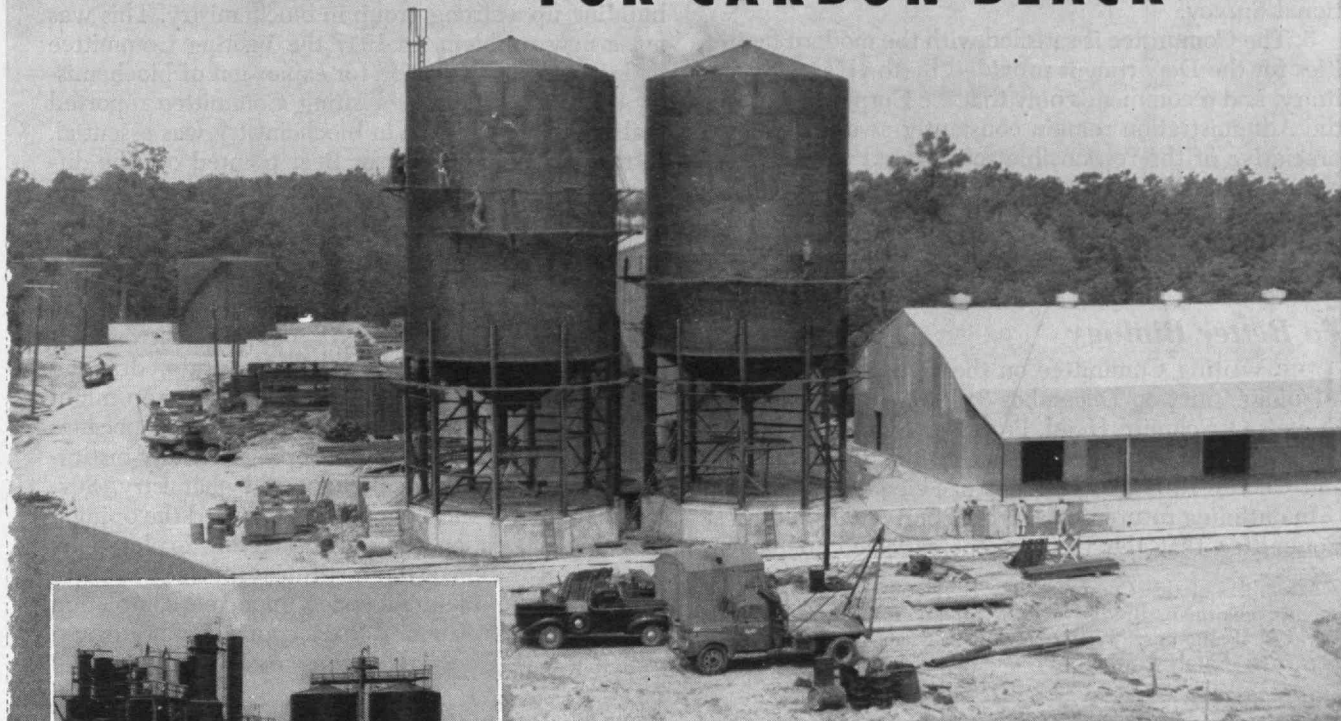
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A joint operation of the Continental Carbon Co. and the Continental Oil Co., this new plant of the Continental Oil Black Co. was engineered and built by United Engineers & Constructors Inc of Philadelphia.

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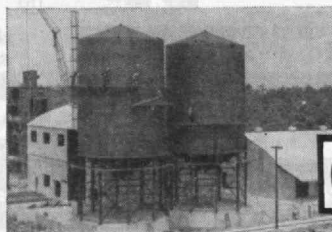
For this plant, Graver supplied the tankage for the oil feed stocks to be processed and the bins to receive the finished product. The pair of Graver-built bins, of cone roof and cone bottom design, each measure 30' in diameter by 38' 4" high with a total storage capacity of 1,500,000 lbs. of oil black.

In view of the high standards exercised by the Continental Oil Black Co. in the choice of equipment, Graver is pleased to have supplied the process tankage for this notable installation.

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GRAVER

THE INSTITUTE GAZETTE

(Continued from page 516)

4. The Committee supports the idea of establishing a course in the Natural and Social Sciences, as recommended in the report of the Committee on Educational Survey.

5. The Committee is satisfied with the modern facilities for the Department provided by the Hayden Library, and recommends only that the Corporation and the Administration remain constantly aware and appreciative of the responsible role played by the Department of English and History in the future of undergraduate education at M.I.T. and provide for the inevitable growth of the Department if it is to fulfill its responsibility as it intends and as it should.

To Better Biology

THE Visiting Committee on the Department of Biology* met on December 3, 1951, with Professor Francis O. Schmitt, Head, Professor Richard S. Bear, Executive Officer, respectively, of the Department, and George R. Harrison, Dean of Science.

In outlining future plans, Professor Schmitt told the Committee that the Department expected to move

*Members of this Committee for 1951-1952 are: Alfred L. Loomis, chairman, Bradley Dewey, '09, Per K. Frolich, '23, David B. Langmuir, '35, E. Newton Harvey, A. Baird Hastings, and Ralph Lowell.

into the new John Thompson Dorrance Laboratory in the spring, and that this laboratory was being completed at a cost of approximately \$2,500,000. It would provide excellent facilities for the present student enrollment in the Department which includes 43 undergraduate students, 31 graduate students, and 18 post-doctoral fellows.

Considerable discussion was given to the need for building up a strong group in biochemistry. This was not a new problem. In 1947 the Visiting Committee had pointed out the need for expansion of biochemistry and in 1949 a new Visiting Committee reported that increased strength in biochemistry was essential. In this discussion Professor Bear pointed out the difficulties of attempting to build up a biochemical group within the Department, and, at the same time, not hurting the morale of the present members of the staff of the Department.

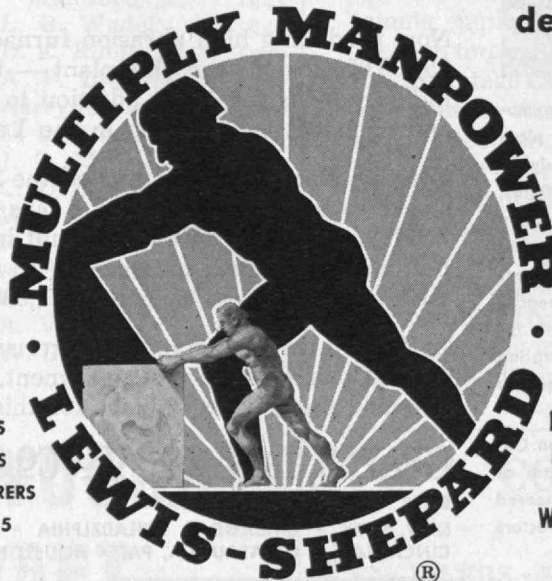
Dean Harrison then raised the question of the desirability of organizing a separate department or division of biochemistry within the Institute, drawing both from biology and chemistry. Such a step might be desirable for administrative reasons and because biochemistry as it is now developing in many institutions draws both from biology and chemistry. Several members of the Committee expressed the opinion that this suggestion should be actively explored by the Administration of the Institute, especially as there would now be adequate space upon the completion of the new John Thompson Dorrance Laboratory.

(Concluded on page 520)

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THE INSTITUTE GAZETTE

(Concluded from page 518)

Professor Schmitt announced that plans were under way to create a memorial for the late Professor John R. Loofbourow, Executive Officer of the Department. Funds, to be subscribed by friends and admirers of Professor Loofbourow, would be used to give grants-in-aid to worthy students. The Committee wholeheartedly approved this plan and desired to record their deep sense of loss felt in Professor Loofbourow's untimely death.

Guggenheim Fellows

THREE M.I.T. professors have been awarded 1952 Guggenheim fellowships for travel and research in their special fields.

The fellowships have been granted to Harold A. Freeman, '31, Professor of Statistics, for studies of statistical methods applied to industrial problems; John D. Roberts, Associate Professor of Chemistry, for studies of the occurrence and the structures of nonclassical cationic intermediates in organic reactions; and Raphael Salem, Professor of Mathematics, for studies in the field of trigonometric series.

The awards are made from the John Simon Guggenheim Memorial Foundation which was established in 1925 by the late Simon Guggenheim, United States Senator from Colorado, and his wife, in memory of their son John.

Executives Turn Students

EIGHTEEN young industrial executives have been awarded Alfred P. Sloan Fellowships for the Executive Development Program at the Institute. These men, nominated by their employers as showing unusual promise for industrial leadership, have been selected in a nationwide competition and will receive grants up to \$3,720.

In announcing the fellowship awards, Gerald B. Tallman, Associate Professor of Marketing, and Director of M.I.T.'s Executive Development Program, said:

"This program allows a select group of men with a mature viewpoint, engendered by 10 years of practical business experience, to return to participate in an intensive one-year study of the economic, social, and management problems of industrial administration. The advantages of building some part of a man's education on a background of practical experience is widely recognized, but for most men it remains an unattainable dream.

"The establishment of the new School of Industrial Management at M.I.T. has allowed an increase in the number of fellowships and provides an enriched opportunity for realistic study of the problems of industrial leadership. Our faith in the usefulness of a year-long period of post-industrial study is increasingly supported by the record of industrial leadership achieved by former Sloan Fellows."

One of the 18 recipients of the Sloan Fellowship awards for 1952-1953 is Peelamedu R. Ramakrishnan, '41, general manager and director of Ramakrishna Industrials, Ltd., of Coimbatore, India.



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THE TREND OF AFFAIRS

(Continued from page 474)

Velocity of Sound in Hot Gases

BETTER performance of internal-combustion engines is the objective of research in progress in the Sloan Automotive Laboratories at M.I.T. As one phase in a continuing program of development, attempts are being made to determine the instantaneous temperature of the gas in an Otto cycle engine just before combustion occurs. Accurate measurement of this temperature is important for a better understanding of heat-transfer phenomena and their effects upon preignition and "knock."

Previously engine gas temperatures have been estimated from the relation connecting pressure, volume, and temperature for perfect gases. Studies of this method revealed the presence of a number of ambiguities including inability of the method to distinguish between heat loss and gas leakage. Accordingly, attention has been directed to methods of determining temperature from sound velocity measurements. Apparatus for such determinations has been designed and built by Jordan J. Baruch, '47, Assistant Professor of Electrical Instrumentation, and James C. Liven-good, '41, of the Institute's Division of Industrial Cooperation.

Accurate measurements of sound velocities in gases are not new — even at ultrasonic frequencies and at

very high temperatures. The factors which are peculiar to sound velocity measurements in a firing engine are:

1. The very rapidly changing environment in which the "instantaneous" velocity is to be measured.
2. Possible effects of severe conditions of temperature and pressure on measuring equipment.

(Concluded on page 532)

EDUCATION AND CHANCE

(Continued from page 481)

center of a manuscript page, I could get the sense and even the flavor of the prose. In six months, I was consuming 65 envelopes of manuscripts a day, five days a week, and when the fare was thin, I could raise the count to 80 or 90.

As time went on, I realized that editing is essentially a calling for innumerable decisions — some of the decisions are very easy; some of them so difficult that they must be held over and thought about for days. Then I had to learn how to write to our contributors — how to close the door firmly without pinching the author and how to encourage a sensitive poet or an overlong storyteller to do the revisions which will result in an acceptable piece of work.

In the middle years, I had the chance to be affiliated with our authors, most of whom were older than I. And from my friendships with James Norman Hall,

(Concluded on page 524)

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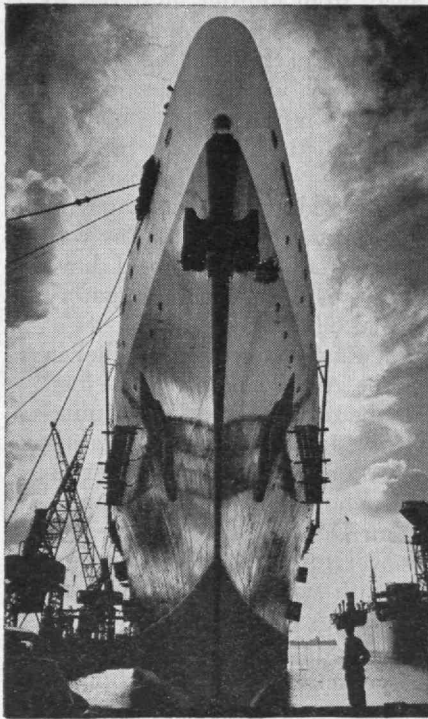
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VIA '24

HULL 488

... *steel, men, and rope*

American shipyards are echoing to the cheerful ring of hammers, the staccato bark of riveters. Down from the ways glide proud, new American ships.

Take Hull 488. The keel was laid February 8, 1950, at the Newport News Shipbuilding and Dry Dock Company, Newport News, Va. Soon, as the majestic "S. S. United States," she'll be breasting the seas as America's fastest challenger for the Atlantic Blue Ribbon.



"S. S. United States" at outfitting berth

Yes, the U. S. shipbuilding industry is hard at work. Hard at work, too, is the U. S. Cordage industry—for finest quality rope is required in building and operating every ship.

There's rope for cables, hawsers, for winches, scaffolds, booms, ladders, slings. Rope holds, ties and secures myriad materials, moves thousands of tons of equipment—and men. It must be good rope ... rope you can trust.

That's why ship builders, who know how important fine rope is to the operation of today's shipyards and to our maritime economy, depend on the U. S. cordage industry. And a sound cordage industry means just as much to the many other industries which rely so heavily upon these products for efficient operation.

*Presented in behalf of
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How Vital is Rope?

Wars, strikes and nature can and have paralyzed many industries.

We shudder when we read of a steel shutdown, a transportation halt, a loss of crops. Immediately we think of our own personal inconvenience—and rightly so.

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Yes, rope is an indispensable product—and a glamorous one, if you will but untwist the strands and look for the drama, the history, the excitement, the averted accident and the day-to-day dependable functionalism contained in the yarns of every piece of American-made rope.

(The two advertisements reproduced here are part of a series currently running in *Time Magazine* to acquaint the American people with the importance to them of rope and twine.)

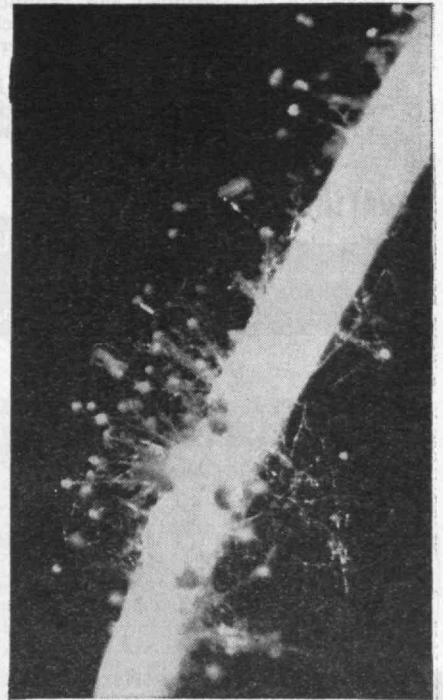


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If you were to set out to ruin perfectly good U. S.-made rope, you couldn't do it more thoroughly than the ropemakers themselves. They have a reason.

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Mildew's long arms pluck the life from untreated rope

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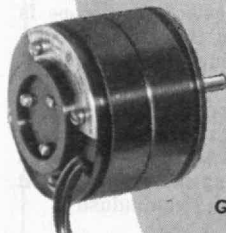
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Position Indicator
Type 1C-001A

EDUCATION AND CHANCE

(Concluded from page 522)

Hans Zinsser, Mazo de la Roche, Agnes Newton Keith, Nora Waln, and Walter Lippmann, I gained something very precious — something that added immeasurably to my philosophy and my self-reliance. I saw how much devotion and encouragement an editor must give to a writer he believes in. I think of Max Perkins of Scribner's and how he labored over Tom Wolfe's manuscripts; I remember that Alfred Harcourt devoted an entire year to the editing of Carl Sandburg's four volumes on Abraham Lincoln; and I remember how vital was the encouragement which Alfred McIntyre gave to John Marquand when Marquand was turning away from murder mysteries to write his big novel, *The Late George Apley*. I think of Harold Ross, the late editor of the *New Yorker*, and of the audacity and belief with which he devoted an entire issue to John Hersey's report on Hiroshima. I think of the latitude he has given to such brilliant contributors as Rebecca West, James Thurber, and E. B. White. I am talking about the later stages in education which an editor goes through on his way to the final decision. But the relationships I have mentioned must surely be as true of the laboratory as they are of the editorial office.

Because of my love of English and of my belief in the free expression of the American spirit, my final wish for you is that you be ready to speak your mind when you have the chance. I doubt if any graduating class before you has been charged with a greater responsibility. Those of us who heard J. Robert Oppenheimer deliver the Arthur Dehon Little Lecture here at the Institute will never forget the self-searching and humility of spirit with which he disclosed the aspirations and the misgivings of a nuclear physicist. Hearing him speak, I realized that the Ivory Lab, the Ivory Tower where a physicist could devote himself to pure science regardless of national issues, has been closed for the duration of this century. Whether as physicist, chemist, or engineer, you will be determinants in our national security and, in exceptional cases, agents of our foreign policy. One has only to visit Los Alamos or read the discussions in *The Bulletin of the Atomic Scientists* to realize how conscientious, how candid, and how articulate are the older men under whom you will serve.

See that you live up to them. Good luck!



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PETER S. LEWIS	'50	CYRUS N. WARSHAW	'47

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PHILCO CORPORATION

Philadelphia 34, Pa.

CANADA AND THE UNITED STATES

(Concluded from page 485)

are seeking, first of all, to obtain greater international security through the binding together of like-minded nations. I need not tell you how we in Canada have been impressed by the willingness of the United States to assume the full responsibilities of the free world's leader. For her part, Canada is showing the same readiness to bear her share of the burden that she showed between 1939 and 1945. Just as during the War, and in the years after, Canada is paying her own way, and has had no occasion to seek out or receive financial assistance from other countries. Many editorial writers in the United States overlook this.

Approximately half of our national budget of about four and one-half billion dollars is earmarked for defense. Our preparedness program is many-sided, and will absorb a substantial proportion of our energies for some time to come. Our armed forces have doubled strength since the outbreak of the Korean War and Canadian units have taken their place beside American forces, both in Korea and in Europe.

The United States and Canada have also shared the objective of helping to restore the war-torn economies of Europe and Asia and of raising the standards of living in underdeveloped countries. There can be no complete measurement of the contribution made by your E.C.A. programs to the building up of the free world. On our side, Canada made available, in various forms, a total of \$2.7 billions in economic assist-

ance to other countries in the years 1945 to 1950. Related to national income this contribution was not exceeded by any other country.

Thus it is that Americans and Canadians are working toward the achievement of similar objectives in international forums and in the development of national economic policies. If we often do not go about this in exactly the same ways, there are good reasons for it. We do differ in tradition, in culture, and in the temperament of our people, in our constitutions, and in our political institutions, and in the stage of our economic development. Because this is so, there is great need for mutual understanding between us.

The value of such knowledge and understanding between the United States and Canada has grown along with our common interests and responsibilities. Their importance is underlined today by the stand we have been compelled to take in the defense of our freedom. It seems to me all of us can be glad that American awareness of Canada is becoming more immediate than it once was. Canada is a country worth knowing for itself, for its vital association with your country, and for its place in the free world. The vast resources to which I referred before are available to those with whom we are associated as friends in our common aims — that is part of the pattern of sincere friendship. The best kind of friendship doesn't need be a matter of active concern, but when it gets to the point where it is taken for granted, it begins to pall. Let us on both sides of the border see to it that we don't have that kind of friendship.



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BY WHAT MEASURE?

(Continued from page 477)

resemblances in neighboring fields; and as one proceeds, the definition of neighborhood constantly expands so that there emerges an almost common set of ideals. Spinoza taught us "the supreme fact is that somehow things are one." Indeed, I think that those who study the intellectual development of the great seers of the Twentieth Century, whatever their professional discipline — Poincaré, the mathematician, Schroedinger, the physicist, Eddington, the astronomer, Holmes, the judge, Osler, the doctor, James, the psychologist — will find that they were initially led to the sense of values which they finally developed from an intensive study of their own specialized tasks. So I say that the first element by which our society will be measured is its capacity to induce its specialists to seek meaning in the details of their daily work, and to communicate that meaning to their fellows in other specialties.

Let me underline the duty of communication to which I have just referred. There are, I know, those who distrust, or at least regard as of secondary importance, the specialist who seeks to increase popular understanding of his professional knowledge and criteria. But a technician from whose work can be drawn a generalization applying beyond his own field has the opportunity to make the most significant contribution to civilization. What began as an inquiry into the problems of a livelihood becomes by subtle

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transformation a disclosure of a way of life. Out of the complex comes that simplicity of purpose which is the core of all stability, in societies no less than in individuals. If what I have said seems abstract, let me recall to your mind Cardozo's *The Nature of the Judicial Process*⁹ or Hadamard's *An Essay on the Psychology of Invention in the Mathematical Field*,¹⁰ each in its own way drawing from a specialized field the materials which help explain those values underlying the creative process.

So far, I have spoken of those ideal values which may be extracted from an imaginative understanding of the logic, history, and purpose of our specialized vocations. But the principle of a common outlook achieved through a study of detail has a much broader application. Indeed, does it not furnish a clue to realizing the potentialities of the cultural diversities characteristic of the heterogeneous racial, religious, and social groups within our land and perhaps within the world? Hitherto we have alternated between two policies — one of urging them to conform to a narrowly defined democracy; the other, and more usual, of tolerance, but a tolerance tending in practice to be nothing more than indifference based on the belief that each man's ideal pattern is important only to himself or his own group. But spiritual growth rarely results from either imposed conformity or isolated

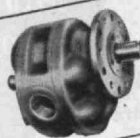
(Concluded on page 530)

⁹Cardozo, Benjamin N. (New Haven: Yale University Press, 1921).

¹⁰Hadamard, Jacques S. (Princeton: Princeton University Press, 1945), \$2.00.

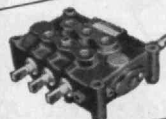
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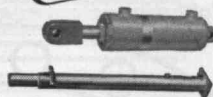
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BY WHAT MEASURE?

(Concluded from page 529)

coexistence. The vitality of ideals depends upon the individual's escape from solitariness and his sense of participating membership in the community of mankind. That comes only when his cultural diversity is not merely tolerated, but treasured as a gift to the common account. And the society which lays up such free gifts of the spirit will have a richer store from which to draw when it fashions its pattern of ultimate value.

What the precise pattern of our society will be, and how each of us will enter into it, I have not told you and cannot tell you. What I have tried to make you feel is that though there may be no absolute standards governing the human race from the day of creation to the day of final judgment, yet every man who searches may apprehend beyond the perceptible facts of his own self-interest which he comprehends, a world of ideals evolved from and forming the style of the society in which he lives. This world of ideals he only dimly discerns, but his insight increases as he ponders deeply over the significance of the details of his chosen work and of the nature of the "rock whence he is hewn."

And let him not suppose that the path to which I have been pointing, though it fails to supply definite rules for conduct, or to formulate a creed with concrete content, is inconsistent with a religious life. For religion, as Alfred N. Whitehead taught us, "is the vision of something which stands beyond, behind, and within the passing flux of immediate things; something which is real, and yet waiting to be realised; something which is a remote possibility, and yet the greatest of present facts; something that gives meaning to all that passes, and yet eludes apprehension; something whose possession is the final good, and yet is beyond all reach; something which is the ultimate ideal, and the hopeless quest."¹¹

¹¹Science and the Modern World, opus cited, page 275.

The Review is not published during the summer months following July. This issue, therefore, concludes Volume 54. Readers who bind their copies are reminded that if they possess nine issues of Volume 54, their files are complete.

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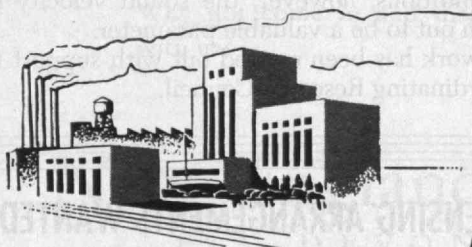
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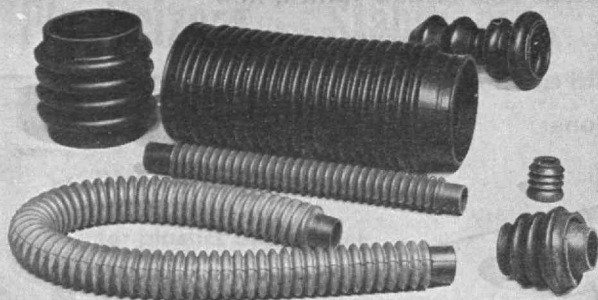
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THE TREND OF AFFAIRS

(Concluded from page 522)

3. The desirability that the measuring apparatus and its operation shall not effectively alter the phenomena occurring in the normal engine cycle.

In principle, the method of operation which has been selected depends upon the following technique: An oscillator (whose frequency is approximately two megacycles per second) is pulse modulated by an engine-driven commutator and a pulse generator; the wave train thus generated is fed to a transmitting transducer which is located on one side of the test cavity in the engine combustion chamber. Simultaneously this pulse is fed to the sweep-initiating circuit of a synchroscope. A sawtooth voltage generated in the synchroscope is applied to the horizontal plates of the cathode-ray tube. At the same instant, the transmitting transducer emits an acoustic wave train which travels across the test cavity and is received by a receiving transducer, is amplified and fed to the vertical plates of the cathode-ray tube to display the wave train. The position of the leading portion of the wave train indicates the transit time of the acoustic signal.

With such equipment, results obtained to date may be summarized as follows:

1. Preliminary experiments indicate that sound velocity measurements can be made with satisfactory accuracy in air in the cylinder of an engine supplied with air only and driven by outside power.

2. The duration of the measuring period at each point of the cycle will be approximately 20 to 50 microseconds depending upon the temperature.

3. The "temperatures" derived from these measurements are average values across a test path approximately 0.6 inch long. This small region is representative of the volume of gases which produce "knock" in a typical case.

4. Sound velocity measurements cannot be properly interpreted in terms of temperature unless the particular values of molecular weight and specific heat ratio are known for the gas being examined. For those cases where "pre-flame" reactions are involved, the extent of the changes in average molecular weight and specific heats may not be known with accuracy. Even under these conditions, however, the sound velocity itself may turn out to be a valuable parameter.

This work has been carried out with support from the Coordinating Research Council.

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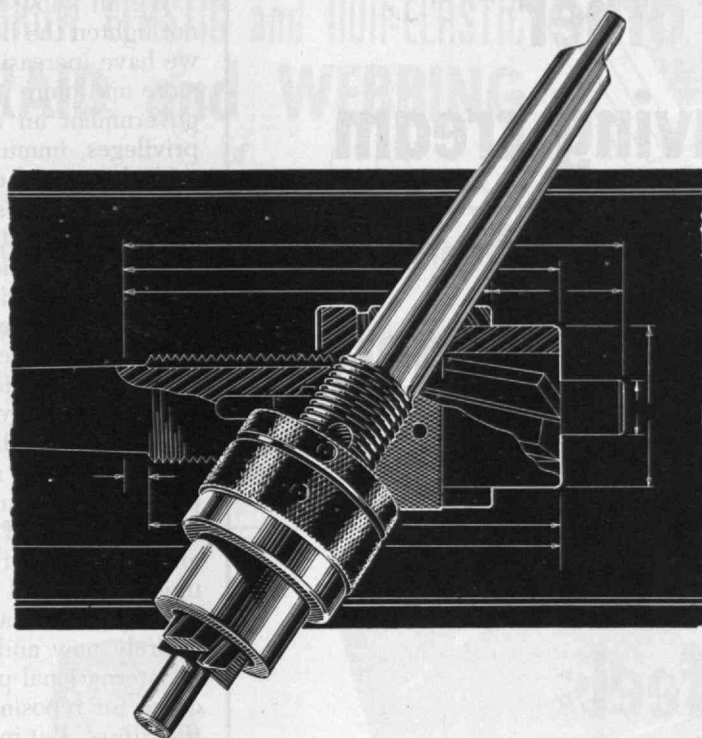
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FACING THE FUTURE

(Continued from page 487)

sistently a reasonable policy whose merits commend themselves both to us and to our allies.

We all know that our domestic developments do not lighten the heavy load that we carry abroad. For we have increasingly seen organized groups acquire more and more power which they use to wrest from government an ever-widening collection of special privileges, immunities, and beneficences. Combined with the cost of defense, these threaten ultimately to undermine the essential character of our society.

The complicated nature of the international environment in which we live; the intricate questions of politics, economics, exchange, and finance which it raises; the problems of the relation of private to public power — these forces place unprecedented strains on our capacities for self-discipline and on the ability of our government to deal adequately and prudently with the issues it is called upon to resolve.

We have, for many years now, responded to the problems of many countries throughout the world with vast sums of money and a fund of valuable goods and services. In this respect our behavior is, perhaps, unique in world history. Also, by becoming a party to the North Atlantic Treaty, we have established an entirely new and unusually significant environment in international politics. This record must give us all cause for reposing faith in our abilities to deal with the future. But money and money alone, just as arms and arms alone, will provide no solution to our difficulties. The margins within which we operate are narrow. The international problems with which we deal and the domestic issues we face deny us the luxury of irresponsible statements, casually reached conclusions, and thoughtless mistakes. We are, it seems to me, on trial. The talents, abilities, and capacities for self-discipline of the American people are being put to the test as perhaps they have never before been tested. We cannot escape this test by renouncing it. We cannot avoid it by ignoring it. We have no other choice but to face it with confidence and self-reliance.

I have not, I hope, painted this picture of the errors of the past 30 years and the stubborn problems they created, nor have I outlined what might have been had we behaved differently, to foster an attitude of hopeless despair. On the contrary, we can, I believe, face the future with confidence. For it is within our

(Concluded on page 536)

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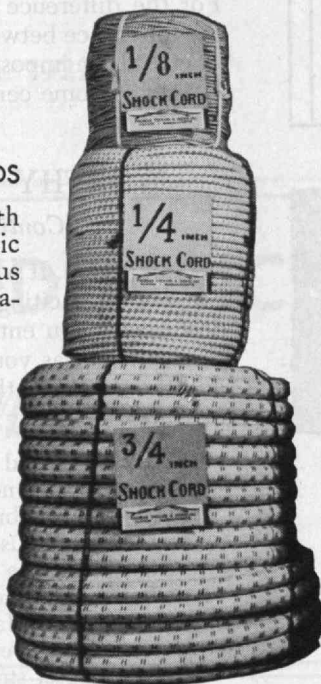
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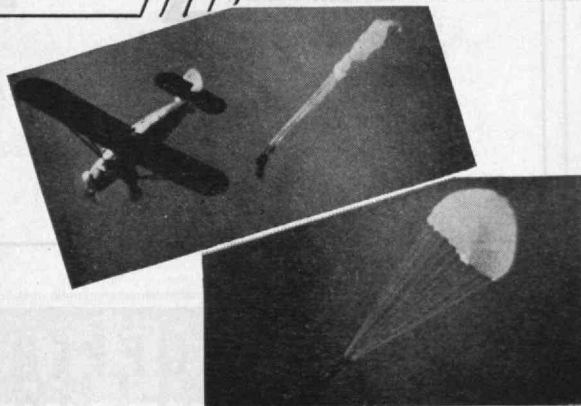
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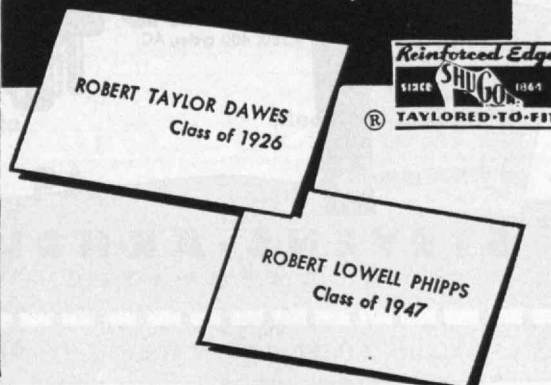


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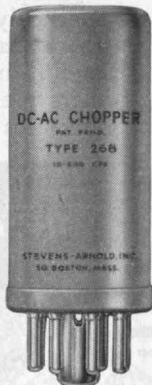
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FACING THE FUTURE

(Concluded from page 534)

hands to shape, fashion, and mold it. We are not, inevitably, the victims of our past nor the prisoners of our predetermined future. But I have said what I have said in order to demonstrate how easily we can mislead and deceive ourselves and with what superficial persuasiveness we can be caught in self-made traps.

We have not irrevocably lost our freedom of action. We are still in the position to chart a true course toward world peace and domestic prosperity. But, in order to employ our talents and resources for our own good and for the benefit of the world, we must make sure that the principles on which our system has been constructed are, in fact, at work, that most people are persuaded to dispassionate and objective argument, that American citizens are morally responsible — conscious of their obligations to family, community, state, and nation — that they can rise above parochial and personal interest in their view of foreign affairs and internal policies. Are we capable of such self-discipline and self-restraint? This is the test to which we are being put. How we meet this test will determine whether we shall preserve our peculiar sort of free society or whether we, too, will fall by the wayside. For the difference between freedom and tyranny is the difference between self-imposed restraints on conduct and the imposition upon us all of rules and regulations by some central, omnipotent authority.

WORTHY TO BE CONFIDENT

(Continued from page 478)

bethan period. It is a period of confusion and hazards but also of exciting accomplishments and a sense of destiny. As you enter upon your career, you will be strengthened as you sense the greatness of the times and the greatness that the times demand. In the lines of Christopher Fry:

Dark and cold we may be, but this
Is no winter now. The frozen misery
Of centuries breaks, cracks, begins to move.
The thunder is the thunder of the flows,
The thaw, the flood, the upstart Spring.
Thank God our time is now, when wrong
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(Concluded on page 538)

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(Concluded from page 536)

Thus we can be optimistic and not pessimistic about your opportunities and your future. We feel that you have reason to rejoice "as a strong man to run a race" and that the track is clear and fast. We feel that you should enter your career with confidence, and with the humility of the man who is worthy to be confident.

Martin Luther, in writing of his education, described a professor of his who used to doff his hat when he came into the classroom because he felt it proper to bare his head in the presence of so many future burgomasters, chancellors, doctors, and regents. Whether there are future burgomasters among you, I would not know; but it is a pleasure for us today, for us of the Corporation and Faculty and Alumni, to bare our heads to you of the Class of 1952 because we are certain there are among you so many future scientists, engineers, executives, and public-spirited citizens who will achieve accomplishment and distinction. We are proud to have you go out as sons and daughters of M.I.T. and to join the ranks of Alumni who are proud of this, their institution, and who cherish its ideals.

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Alumni AND Officers IN THE News

Elections and Promotions

RICHARD B. FISHER'10 has been elected president of Le Page's, Inc., adhesive manufacturers.

JOHN STEVENS'19, formerly Vice-president of Marathon Corporation, recently was appointed president of the firm.

ALLISON BUTTS'13, professor of electrometallurgy at Lehigh University, was named head of the Department of Metallurgy at the university.

C. GEORGE DANDROW'22, Vice-president of Johns-Manville Sales Corporation, has succeeded LOUIS H. SKIDMORE'23, senior partner of Skidmore, Owings, and Merrill, as president of the New York Building Congress. Mr. Dandrow, who in 1948-1949 was the 55th president of the Alumni Association at M.I.T., becomes the first non-architect to occupy the Congress presidency in the 31 years since its founding.

Under the "Personnel" column of the May 5, 1952, issue of *Time* magazine is an announcement that HOWARD E. WHITAKER'24, Executive Vice-president of the Mead (paper) Corporation, has moved up to the presidency of the firm.

JOHN H. FIELDING'25 has been elected vice-president of the Armstrong Rubber Company of West Haven, Conn.

The Improved Paper Machinery Corporation of Nashua, N.H., announced the election of ELMER R. BURLING'30, to the position of executive vice-president.

HERBERT L. SHUTTLEWORTH'2d, '37, has been elected president of the Mohawk Carpet Mills, Inc., of New York.

Our Distinguished Alumni

WILLIAM D. COOLIDGE'96, Director Emeritus of the General Electric Research Laboratories in Schenectady, N.Y., is the recipient of the first K. C. Li Medal to be given for advancing the science of tungsten. The award, which is to be given every two years, was presented to Dr. Coolidge, specifically, "for his conception and development of a method for obtaining metallic tungsten to the benefit of all mankind."

For "distinguished service to humanity," ERNEST B. MACNAUGHTON'02, President of the Portland Oregonian Publishing Company, was presented with the William Freeman Snow Medal. He became the first newspaper man to win the award.

On May 27, leaders in the shipping industry and allied fields paid tribute to PROFESSOR LAWRENCE B. CHAPMAN'10, of the Department of Naval Architecture and Marine Engineering at M.I.T., who is retiring after 27 years of teaching at the Institute. Shipping executives who attended a luncheon in his honor in New York noted that his course on sea transport was the only one of its kind in the

country. Earlier in the spring, on April 24, thirty-one graduates and undergraduates of Professor Chapman's XIII-C Course (Marine Transportation) also honored him at a New York dinner.

EDWARD R. SCHWARZ'21, in charge of the Division of Textile Technology in the Department of Mechanical Engineering at M.I.T., was made an honorary life member of the American Society for Quality Control at the annual meeting of the organization's Boston chapter on May 8.

GEORGE K. NAKASHIMA'30 has been chosen to receive the craftsmanship medal of the American Institute of Architects for the year 1952. Mr. Nakashima will be honored for his talents as a furniture manufacturer and designer; it will be the first time that the award has gone to a furniture craftsman. The craftsmanship award, which was established by the American Institute of Architects in 1915 as its highest honor for work in the various industrial arts, is to be presented to the M.I.T. Alumnus for the "honesty, sincerity, simplicity, naturalness and organic beauty" expressed in his furniture. "Clean lines, well-selected materials and natural, hand-rubbed oil finish distinguish his product," the A.I.A. commented.

Interviewed and Quoted

HAROLD R. BOYER'22, chairman of the Aircraft Production Board of the Defense Production Administration, answered questions relating to the progress and problems of aircraft production in an article published in the magazine *Flying* (April, 1952). The title - "Aircraft Production: Problems and Answers." Mr. Boyer began work, after graduation from M.I.T., in the stockroom of Maxwell Motor Company. In the early 1930's he became president and general manager of the Allen Manufacturing Company and, in 1946, director of production engineering for General Motors. Finally, in 1951, he accepted his present assignment in the Defense Production Administration.

Written by the Alumni

THOMAS C. DESMOND'09, a member of the New York State Senate, wrote an article for the June, 1952, issue of *Coronet* entitled "Boston's Fountain of Youth."

In the April, 1952, issue of *United States Naval Institute Proceedings* is an article written by GEORGE C. REINHARDT'24, entitled "Air Power Needs Its Mahan." Colonel Reinhardt is a member of the staff and faculty of the Command and General Staff College at Fort Leavenworth, Kansas.

FREDERICK E. TERMAN'24 of Stanford University has coauthored a book, with J. M. Pettit, entitled *Electronic Measurements*. (New York: McGraw-Hill Book Company, Inc. in press.)

WILLIAM SHOCKLEY'36 of the Bell Telephone Laboratories edited *Imperfections in Nearly Perfect Crystals*. (New York: John Wiley and Sons, Inc., April, 1952.)

Included in the May 17, 1952, issue of the *Saturday Evening Post* is an article entitled "We Must Put Wings on the Infantry," written by JOHN C. H. LEE, JR., '39.

HENRY M. PAYNTER, JR., 10-44, and GEORGE A. PHILBRICK, 2-46, wrote an article for the May, 1952, issue of *Industrial Laboratories* - "The Electronic Analog Computer as a Lab Tool." Dr. Paynter also penned an article entitled "Methods and Results from M.I.T. Studies in Unsteady Flow," published in the April, 1952, issue of the *Journal of the Boston Society of Civil Engineers*.

Obituary

- FRANKLIN BRETT'87, February 7.*
- CHARLES W. SABINE, JR., '88, February 12.
- GEORGE L. NELSON'90, date unknown.*
- JOHN B. PAINE'90, August 1, 1951.*
- ARTHUR D. ROPES'90, March 18.*
- JOHN W. HALL'92, April 15.*
- B. DALE BUMSTEAD'93, May 9.*
- CHARLES E. LOCKWOOD'95, February 28, 1946.*
- CHARLES A. MESERVE'95, April 15.*
- CHARLES S. NEWHALL'96, May 1.*
- GEORGE R. ANTHONY'98, April 16.
- WILLIAM R. BONNYCASTLE'98, March 14, 1951.
- CHARLES LE MOYNE'98, March 4.
- FRED H. TWOMBLY'98, May 11.
- BERNARD HERMAN'99, May 1.*
- WILLIAM H. HUBBARD'00, February 29.*
- PERCIVAL E. TRUE'00, April 7.*
- EDWARD L. DOYLE'04, April 24.*
- RICHARD O. MARSH'05, April, 1949.
- WILLIAM H. HOYLE'06, December 2, 1950.
- JAMES H. DENNEDY'08, November 16, 1951.
- JOSEPH B. SANDO'08, September 19, 1950.
- WILLIAM H. CAMP'09, date unknown.*
- ARTHUR F. CONANT'09, January 21.*
- BENJAMIN HAMMOND'09, April 17.*
- JOHN F. MCMORROW'10, April 17.*
- MARCUS A. GROSSMANN'11, May 21.*
- SUMNER M. SPAULDING'16, April 10.*
- CHESTER E. LINSOTT'18, February 4, 1949.
- JOSEPH S. NEWELL'19, May 5.*
- HYMAN P. SELYA'19, March 28.*
- FREDERICK S. DELLENBAUGH, JR., '21, April 17.*
- DOUGLAS C. STEWART'22, April 5.*
- FRANK W. HALLAM'24, May 2.*
- MORRIS F. VALENTINE'25, February, 1944.
- FRANCIS S. WALKER'30, January 20.*
- WARREN R. DEVINE'36, August 18, 1950.
- STUART PAIGE'39, March 28.*
- FRANK WELCH, JR., '40, October 29, 1951.*
- FAUSTO PAVONI-BELLI'50, December, 1951.

*Mentioned in class notes.

News FROM THE Clubs AND Classes

CLUB NOTES

The M.I.T. Association of Baltimore

At the Association's regular weekly meeting at the Baltimore Engineers Club on May 5, we had the pleasure of entertaining H. E. Lobdell'17, Executive Vice-president of the Alumni Association. Mr. Lobdell's visit was the first from the Institute for several years and several of our usual luncheon group regretted missing him. Those present included: Ernest G. Schmeisser'05, W. Walters Pagon'07, Bill Spencer'15, Denny Denbin'21, Clint Conway'24, Ralph Thomas'13, Paul Powell'08, Bob Lacy'98, Bill Bergen'37, Welcome Bender'38, George S. Trimble'36, A. L. Varrieur'37, E. Chickering Payson'43, R. S. Williams'41, Ray Krieger'41, Gus W. Heinz'42, and Whit Spaulding'21.

On the evening of April 22, several from our local group attended a lecture given by our own Karl Compton on "The Medical Applications of Radio Activity," under the auspices of Goucher College, and had a few pleasant moments to chat with Dr. and Mrs. Compton—GEORGE W. SPAULDING'21, *President*, 1605 Lexington Building, Baltimore 1, Md.

M.I.T. Club of Central Massachusetts

Dr. and Mrs. Karl T. Compton were guests of honor at the annual Ladies Night meeting of the Club on May 5 in Worcester at which 67 members and guests were present. This was an especially enjoyable meeting since we not only heard some interesting comments by Dr. Compton, but also saw some of the many excellent moving pictures taken in recent years by Oscar H. Horovitz'22 of Newton.

Dr. Compton, who was introduced by Howard F. Atwood'32, *President* of the Club, spoke about the many foreign students now training at M.I.T. and of the many more who had sought admission over the past several years. He pointed out that our country has much to offer the rest of the world in the way of scientific knowledge and achievement, as shown by the large number of foreign students seeking admission to Technology and to other schools. However, he also cautioned that we should not forget that other countries are also making significant contributions to scientific knowledge and that we may learn much from them.

The movies shown by Mr. Horovitz were enjoyed very much by all present. The first one was taken in the

City of Venice and brought out very well the beauty and charm of this ancient city. He then showed two pictures taken in Israel which emphasized very graphically the serious problems facing the people of that country and the great strides they are making toward solving them.

The Nominating Committee, which consisted of Robert T. Dawes'26, Thomas P. Kelly'18 and Roger Smith'26, presented a slate of officers for the coming year which was unanimously approved. They were: Robert G. Clarke'35, *President*; Frederick E. Mader'32, *Vice-president*; Robert N. C. Hessel'27, *Treasurer*; Donald M. Whitehead'45, *Secretary*; Richard H. Harris'48, *Assistant Secretary*; and, for the Executive Committee, Howard F. Atwood'32, George R. Blake'39, Robert H. Brown'22, Frederick N. Dillon, Jr., '22, Haskell R. Gordon'38, Mac Levine'25, Carl F. Mellin, Jr., '50, William G. Scola'43, Raymond R. Stevens'48.

It is expected that the first meeting of the fall season will be held in late October or early November.—DONALD M. WHITEHEAD'45, *Secretary*, 464 Salisbury Street, Worcester 5, Mass. RICHARD H. HARRIS'48, *Assistant Secretary*, Lovell Road, Holden, Mass.

M.I.T. Club of Central Pennsylvania

A former instructor at the Institute in the Department of English and History, Harold C. Stearns, spoke at the dinner meeting held in Lemoyne, Pa., on April 22. Most of the Alumni present remembered the old days of E-11 and E-12 with its emphasis on grammatical construction and themes. Mr. Stearns outlined the changes that have occurred in the courses of instruction with the new trend in humanities. The de-emphasis of the technical construction of the language and the increase in the sociological aspects of the course were discussed thoroughly.

The meeting was the occasion for the annual election of officers. A nominating committee, composed of C. J. Walton'14, C. K. Miller'23, and J. P. Connelly'28, recommended the following who were then elected unanimously: Harold R. Spaans'30, *President*; G. C. Wilson'15, *Vice-president* for Lancaster; L. O. Buckner'21, *Vice-president* for York. The present *Secretary-Treasurer* is working out a five-year term.

In addition to Mr. Stearns, the following were in attendance: C. A. Bryan'03, G. G. Garton'35, T. A. Koe'24, E. J. Leffler, Jr., '51, W. C. Mehaffey'17, E. H. Olmstead'37, D. J. Parr, Jr., '47, Harold Radcliffe'41, F. A. Robbins, Jr., '02, H. R. Spaans'30, F. E. Thomas'17, G. E. Thomas'27, P. E. Tillson'06, C. J. Walton'14—HAROLD

RADCLIFFE'41, *Secretary-Treasurer*, Woodcliffe, R.D. No. 2, Harrisburg, Pa.

The M.I.T. Club of Chicago

The month of March was an active one despite our lack of a formal meeting. Besides the campaign for new students, which was mentioned in May and which is gathering momentum, a group under John Praetz'28 is planning events to coincide with the Centennial of Engineering to be held in Chicago from September 3 to 13, 1952, inclusive. Because approximately 30,000 engineers from the world over will be on hand for this convocation, the Institute should be well represented. Hence, we of the Chicago Club want them to feel welcome and, to this end, are planning a dinner get-together for the evening of September 9, as well as other things to make their visit to Chicago pleasant. All M.I.T. men and their guests will be welcome. By way of explanation, the Centennial is in commemoration of the formal organization of the first professional engineering society in the United States. It should be an interesting session, and Technology men who can come will be treated to the best available by their franchised representatives in the Windy City. Upon arrival, any questions concerning the Chicago Club and its members can be answered by the *Secretary*.

News of the death of another of our members has been received: Alexander Willett Moseley, Class of 1891, Course II, died in Evanston, Ill., on February 28. He was 82 years of age. Mr. Moseley taught at M.I.T. after graduation, after which he moved to Lewis Institute here in Chicago. (Lewis is now part of the Illinois Institute of Technology). Later he moved to the business field as a consulting engineer for the Hanna Engineering Works of Chicago. He retired during World War II but was asked to return by John Hanna because of a shortage of trained engineers. He was the author of *Water Supply in Buildings*. In 1916, Mr. Moseley married Elizabeth Braydon, who survives him along with two sons, a daughter, and four grandsons. To his widow and children go our heartfelt sympathy in their loss.

On April 23, the Club turned out 240 strong—members, wives, and guests—to honor *President* James R. Killian'26, Dean E. P. Brooks'17, and Alfred P. Glassett'20, and to enjoy the top-notch hospitality of Otto Eitel'24 and his Bismarck Hotel. Earlier in the day, Otto was host to Dr. Killian and some 19 other M.I.T. men and friends of the Institute at a very remarkable luncheon, also in the hotel. Later Al Glassett, Dr. Killian, and Dean Brooks, gave interesting commentaries on the Alumni Association, the Institute and

its problems generally, and the new Industrial Management School, respectively.

In addition to the guests of honor, and Mrs. Killian and Mrs. Brooks, those at the speakers' table included Dr. and Mrs. Robert E. Wilson'16, Mr. and Mrs. Pierre F. Lavedan'20, Philip L. Coleman'23, Mr. and Mrs. Robert Gunness'34, Mr. and Mrs. F. Richard Meyer'42, Mr. and Mrs. Robert C. Meissner'43, and Mr. and Mrs. Harlan H. Davis'40.

The Chicago Club, 1,000 strong, herewith collectively and later more individually, invites all Technology men, their wives, and friends who plan to attend the Centennial of Engineering in Chicago the week of September 8, to set aside the evening of Tuesday, September 9. Chicago's best beef and Cathedral Hall of the University Club have been reserved to help welcome and entertain the Club's guests for that evening, so please mark your calendar now and we'll see you then. — HARLAN H. DAVIS'40, *Secretary*, Precision Rubber Products Corporation, 400 West Madison Street, Chicago 6, Ill.

M.I.T. Club of East Tennessee

"No European country can afford to have an M.I.T. and yet no European country can afford to be without one," said Alexander Maidanatz'52, leader of the 37 M.I.T. foreign students who attended the spring meeting of the Club at the S & W Cafeteria, Knoxville, on March 25. Explaining that the student visitors to East Tennessee had come to view TVA and Oak Ridge, Mr. Maidanatz, a native of Paris, France, indicated that the bases for the trip were: (1) recreational; (2) educational; and (3) the opportunity for the students and Americans to acquaint each other with some of the attitudes and ideas originating from the five continents represented.

Three of the visitors spoke briefly, each comparing the educational experience in his native land with that at M.I.T. Mr. Wada from Japan was principally surprised with the informality of American students and indicated that the changes in the Japanese educational system wrought by the occupation actually had, in his opinion, caused chaotic conditions for the present. Mr. Shulman('53) from Israel indicated the educational system in his country was being patterned more and more along western lines but was far from the informality he noted in America. Mr. Whitaker(G.) from London, England, was very entertaining with his witty comparison of English and American educational methods.

R. B. George'23, Acting President, presided at the Knoxville meeting. The business session included unanimous election of the following officers: President, George Palo'28; Vice-presidents, R. E. Frierson'29, J. B. Stevens'33, and A. C. Jealous'42; Treasurer, Dana Wood'06; Secretary, Robert Forbes'33. Mr. Wood reported that the treasury was abundantly overflowing to the extent of \$14.98.

Mr. George thanked the Hospitality Committee, consisting of Mesdames Palo, Hare, Roth, and Birkhoff, for arranging the flowers and making the meeting a pleasant social event. There were 19 Alumni and 10 wives attending the meeting. The roster included the following at this "world conclave" in East Tennessee, with a listing of those from foreign countries presented first:

Herbert Lee'54, British West Indies; Sven Treitel'53, Argentina; Harry G. B. Faulkner'54, Sweden; G. A. Reti'54, Venezuela; S. T. Shah'55, India; Nick Theoplaurpoulos, Greece; Werner Kahn'52, Brazil; Hiroshi Wada, Japan; Alexander Maidanatz'52, France; F. P. G. Whitaker, G., England; J. E. Kjellberg'53, Sweden; Hisao Jimbo'54, Japan; A. C. Nieto'55, Costa Rica; D. R. Saban'53, Argentina; Raymond Jacob'52, Colombia; Claude Hersenti'52, France; Karl Ingvar Selin, G., Sweden; Olov Berglund, Sweden; Lewis E. Russell, G., England; Andre Gervais, G., France; Robert Young'54, Hawaii; Michael Gruenbaum'54, Czechoslovakia; Ricardo Haegler'52, Brazil; Andres M. Sada'52, Mexico; Fausto Martins'54, Brazil; George Di-ena'54, Uruguay; Horacio A. Garcia'55, Uruguay; Mr. and Mrs. Yechiel Shulman, Israel; Miss S. Verma, India; M. N. Nomikos'53, Greece; R. P. Nanavati'54, India.

Alumni, guests, and students from the United States included the following: Margaret Hughes'55, P. P. Pizzorno'16, Grace Roth, Frederick G. Roth'42, A. T. Regan'33, R. W. Smith'33, Robert D. Birkhoff'45, Mr. and Mrs. G. Everett Farmer'22, Mr. and Mrs. F. A. W. Davis'15, Robert Forbes'33, Mr. and Mrs. T. N. Hubbuch'28, Mr. and Mrs. George Palo'28, Mr. and Mrs. R. B. George'23, J. B. Stevens'33, David Berkowitz'53, Mr. and Mrs. Van Court Hare'23, Mr. and Mrs. A. G. Kern'34, William P. Bealer'17, William Mann, G., William L. Griffith'51, Joseph Byrne'48, Alan Lazarus'53, Mr. and Mrs. Dana M. Wood'06, Mr. and Mrs. A. C. Jealous'42 — ROBERT FORBES'33, *Secretary*, TVA, 704 Union Building, Knoxville, Tenn.

Indiana Association of the M.I.T.

The last regular meeting of the Indiana Alumni for the current season was held on May 22 in the Veterans' Room of the Athenaeum Turners, Indianapolis. Our wives were invited and some 23 people enjoyed cocktails preceding a good dinner. Frank J. Travers'23 gave us a most entertaining account of his trip to Mexico in March, on the M.I.T. junket. Frank reported seeing Dr. Compton, Lobby Lobdell'17, and other Alumni, as well as colorful citizens — male and female — of our southern neighbor. Frank's enthusiasm was contagious.

The annual election of officers was conducted with the following unanimous result: Frank J. Travers'23, President; Edgar B. Godley'26, Vice-president; J. Raymond Ramsey'17, Secretary-Treasurer. The mantle and the pen are passed to Ray, not without

some commiseration. — EDGAR R. GODLEY'26, *Secretary-Treasurer*, 6025 North Oakland Avenue, Indianapolis 20, Ind.

The M.I.T. Club of the Kanawha Valley

A smoker was held at the North Charleston Recreation Center on May 13. At this final meeting of the year, the following officers were elected: President, Stuart J. Bugbee'27; Vice-president, William L. Hawes'22; Secretary-Treasurer, Dan Hulett'42. — JEAN P. LEINROTH, JR.'48, *Retiring Secretary-Treasurer*, 1512 Barberry Lane, Charleston 4, W.Va.

The M.I.T. Club of Lower Ontario

The Club held a successful dinner meeting on April 23 at the Engineers Club in Toronto. The guest of the evening was Don Severance'38, Secretary-Treasurer of the Alumni Association. Among the members present were Max Coutts'39, J. S. Keenan'23, Edward Peacock'47, F. J. Heath'40, John Buss'26, R. E. Burns'47, Dick Scott'48, R. R. Moffat'31, P. M. Smith'97, H. T. Fish, J. G. Densmore'48, R. Massey Williams'27, and Ross Lord'32. Don Severance gave an inspiring "fireside chat" on the current doings at Technology. The meeting broke up at 10 o'clock with everyone feeling a little closer to the vital and current happenings at the Institute. — G. ROSS LORD'32, *Secretary*, Mechanical Engineering Department, University of Toronto, Toronto 5, Ontario, Canada.

M.I.T. Club of Milwaukee

The Club met at the University Club, Thursday evening, April 24, and had as its guest speaker A. T. Glassett'20, President of the Alumni Association who emphasized the present acute shortage of engineers and the difficulty in rectifying this situation for several years to come. Present at the meeting were G. Y. Anderson'24, J. B. Ballard'35, M. F. Biancardi'40, W. R. Bohlman'49, F. E. Briber'43, A. G. Hall'25, F. E. Hamilton'07, H. E. Koch'22, C. E. Meyer'36, W. H. Phillips'28, Jack Monday'51 accompanied by Robert King'49 of Cleveland, G. W. Pollock'21, F. J. Port'40, G. E. Schultz'51, D. G. Smith'31, Dr. L. D. Smith'06, C. L. Sollenberger, 10-44, and E. J. Van Patten'24. An election of officers resulted in a white ballot being cast for John B. Ballard'35, President, Frederick R. Gruner'41, Vice-president, Charles L. Sollenberger, 10-44, Secretary, Chester E. Meyer'36, Treasurer with George Y. Anderson, Jr.'24, Michael F. Biancardi'40, Arthur G. Hall'25, and Emerson J. Van Patten'24 to serve as directors.

The next club activity was Ladies Night which occurred on Saturday evening, May 24 in the Empire Room of the Schroeder Hotel. The year will be climaxed with the traditional club picnic, and again Harold Koch'22 has offered his Pewaukee home for the affair. We are looking forward to this party, and we know it will be thoroughly enjoyed

by all.—EMERSON J. VAN PATTEN'24, Secretary, 6160 North Kent Avenue, Milwaukee 11, Wisc.

New Haven County M.I.T. Club

Our fourth meeting for the 1951-1952 season was held at the Weather-vane in Mount Carmel, Conn., on April 16. The purpose of this meeting was to afford prospective M.I.T. students in the area an opportunity to learn something about Tech from the speakers and from us as Alumni.

Our featured speaker was Jack Wood'17 who supplemented his interesting talk with sailing movies. We were also fortunate to have David Dudley from the Admissions Office who gave a very good thumbnail sketch of M.I.T. for the prospective students. This sketch was also of great interest to the Alumni. It is regretted that circumstances beyond the control of the committee severely limited the time which could be allotted to each speaker. Messrs. Wood and Dudley are to be commended for the good jobs they did under the adverse conditions.

The following members were present: Jim Baker, 2-44, Fred Brooks'31, Barney Dodge'17, Phil Dreissigacker '37, Ray Edwards'39, Larry Grew'27, Pete Harvey'28, Eb Haskell'26, Jack Kearns'32, Al Libbey'26, Earle Lovering'38, Fred Lutz'27, Dick Maconi, 2-44, Vince Maconi'15, W. P. Manager'43, Malcolm McKeag'39, Frank Nettleton'30, Roy Parcel'39, Herb Polleys'18, Charlie Smith, Jr., '49, Matthew Smith, Walter Weeks'47, and Marshall Wellington'16.

There were 51 people present, including members and guests.—DAVID G. BLACK, JR., 6-46, Secretary, R.F.D. No. 2, Bethany, New Haven 15, Conn.

The M.I.T. Club of Oklahoma

Twenty-three members from Tulsa enjoyed a luncheon meeting at the Mayo Hotel with Dean Sherwood'24 on January 23, at which the dean brought us up to date with an informal discussion of the Institute in 1952.

The Oklahoma Club and his many friends throughout the country join in extending their sympathy to the family of Lon S. Gregory'24, who passed away from a sudden heart attack on December 16, 1951. Lon owned and operated the L. S. Gregory Company of Tulsa, consulting engineers to the refining and gasoline industries. Joseph A. Sharpe passed away May 9, 1952, after suffering a heart attack at his Tulsa home. Dr. Sharpe was well known in the geological field from his association as president of Frost Airborne Survey Corporation and as vice-president of Frost Geophysical Corporation. Dr. Sharpe is survived by his widow and two sons.

New officers elected for the year 1952-1953 are: President, T. Q. Eliot '42; Vice-president, A. W. Chandler'37; Secretary-Treasurer, J. R. Cowles'37; Executive Committee, D. A. Bartlett '39 and W. S. Smith'30. The new officers will be installed in May.—WALTER S. SMITH'30, Secretary, Process

Equipment Company, 1341 South Boston, Tulsa 3, Okla.

CLASS NOTES

• 1886 •

Under date of May 1, 1952, I received the following from Roland G. Gamwell, our first Class President, and, so far as I know, still our president as I have never heard of his resignation: "Bellingham, Washington. Dear Arthur: Two issues of Tech Review have had no news about 1886. Does that mean that our indefatigable Secretary, Arthur Chase, hasn't recovered from the ailment that possessed him a few months ago, or that there is no news of consequence about us? The latter might easily be and would be a better reason for no report. I shall hope to hear that you are well and hearty. The February Review was interesting to me because of the cover picture of Mount Rainier, on which are some of the alpine meadows that afford summer recreation for me and opportunity for studying the high-mountain plants of which I am very fond. There is a group of garden-minded people, joined by a common interest, known as the American Rock Garden Society. For several years I have been vice-president, but have little opportunity for official service as its office is in New York and most of the members live back in your part of the country. However, many of the group in Washington and Oregon meet once a month, tell each other what they know about high-mountain flora, and, two or three times a year, take tents and sleeping bags and spend a few days where the dainty denizens of the alpine ranges have their homes. Come on out and visit me. I'll take you to camp by a trout-bearing stream in a 10-acre field of pink and lavender Erythroniums, and I'll introduce you to exotic Campanula piperi and King Eritrichium arietoides smothered with exquisite dark blue forget-me-nots. I am 'most 89 years, so you better come soon."

If I haven't spelled out the botanical names correctly, Roland, blame my secretary (under your breath, of course), as I gave her your letter to me instead of copying it out first. Said secretary happens to be my wife and she thinks my penmanship the worst ever—at least the specimens I give her from which to write the Review notes are of that character.

This will be my swan song until November when No. 1 of the 1952-1953 volume is due to appear. Please, '86 Alumni, send me some copy before that time.—ARTHUR T. CHASE, Secretary, Post Office Box 4, Island Creek, Mass.

• 1887 •

With the passing of the most efficient Secretary of '87, Lonsdale Green, some of his correspondence was passed

to me, Ex-President of the Class and now attempting to act as secretary.

N. P. Ames Carter, 22 Grove Avenue, Chicopee Falls, Mass., writes me and supplies news items. He continues to be active in business and national affairs and he would attend our 62d reunion if others will. He states that he hears from Oscar E. Nutter, Newton Upper Falls.

Members lost from the ranks of '87 during the past 12 months are: Philip A. Mosman, Bronxville, N.Y., on May 16, 1951; Gelett Burgess, Carmel, Calif., on September 18, 1951; Harry E. Smith, White Plains, N.Y., on March 14, 1952; Henry B. Brainerd, Dover, Mass., on April 15, 1952; and Franklin Brett, Duxbury, Mass., on February 7, 1952.

Mr. Brett was the son of Zenas Franklin Brett and Julia Tilden Brett; he was born at 299 Harvard Street, Brookline, Mass., and was educated in the Brookline schools and M.I.T. He was married June 15, 1892. He studied landscape gardening with Frederick Law Olmstead and later opened an office of his own. Mr. Brett was very loyal to '87, attending many reunions and, on two occasions, while the Class was holding its reunion at Plymouth, Mass., he and Mrs. Brett invited the Class to most delightful dinners at their charming farm at Duxbury.

Your Secretary pro tem continues active as senior partner in his firm of architects and engineers, established in 1896, and is at work every day.—RICHARD E. SCHMIDT, 104 South Michigan Avenue, Chicago 3, Ill.

• 1890 •

The death of George Lewis Nelson was noted in the May Review. He was born in Hartford, Conn., in 1868. At M.I.T. he was a "special" in the Course in Mechanical Engineering. Our notes show that in 1896 he was treasurer of the Boston and Great Falls Electric Light and Power Company, with an office in the Sears Building, Boston, and, in 1919, at 30 Congress Street. In 1913 he resided at Marshfield Hills, Mass., but in 1933 moved to Ivy Street, Brookline, where he died last year. He had attended no meetings nor replied to any notices since 1935.

We have just learned that John Bryant Paine died August 1, 1951. He was one of several Harvard men who took a few subjects at Tech. Quoting from the Boston Herald: "He graduated from Harvard in 1891 and served during the Spanish-American War as a first lieutenant in the 1st Massachusetts Heavy Artillery, U.S. Volunteers. He was a member of the BAA team which represented the United States at the Olympic Games at Athens in 1896 and won the revolver shooting championship of the world. He was a member of the Harvard Clubs of New York and Boston, the Union Boat Club of Boston, the Beverly Yacht Club of Marion and the Corinthian and Manchester Yacht Clubs. Mr. Paine is survived by his wife, six children, and 22

grandchildren." His father, General Charles J. Paine had a very prominent part in the building and selection of the yachts which, during the nineties, were "America's cup defenders," and, in 1893, John designed one called the *Jubilee*, which, though not accepted, earned him the title of "youngest yacht designer ever known."

Arthur D. Ropes died in March, 1952. He took the Course in Architecture but we have no record of his early work in that line. He had lived in Orange, N.J., but many years ago came to Boston and lived in Wollaston where he carried on an extensive business in sympathy and Christmas cards under the name of the Cameo Art Company. From Mrs. Ropes, we learn that he published a book of poems and wrote a number of hymns including a DeMolay hymn and one for Rainbow Girls.

Passing through Baltimore, the Secretary had the pleasure of a brief telephone chat with John deBuliet who continues to live at the Blackstone Apartments there. He reports his health as good and that he is still active in the Claims Department of the Maryland Casualty Company, with which he became connected 23 years ago. William P. Flint is back at West Chester, Pa., where his address is Post Office Box 66. — GEORGE A. PACKARD, Secretary, 53 State Street, Boston 9, Mass. CHARLES W. SHERMAN, Assistant Secretary, 16 Myrtle Street, Belmont 78, Mass.

• 1892 •

Plans for our 60th anniversary luncheon matured and the luncheon was served at the Longfellow Wayside Inn, South Sudbury, on Saturday, June 7. The Secretary is planning to write up a full account of the occasion in the next issue of *The Review*.

Just before going to press, the Secretary received the following: "Dr. Albert P. Mathews of Woods Hole, Mass., former head of the department of biochemistry in the University of Cincinnati, will be honored by the nation's chemists and chemical engineers at the 121st national meeting of the American Chemical Society. He will receive a diploma certifying a half century of loyal support and faithful service to the Society and its activities. Born in Chicago in 1871, Dr. Mathews received the B.S. degree from . . . Technology in 1892 and the Ph.D. from Columbia University in 1898. He began his teaching career at the University of Chicago. He was promoted to professor of physiological chemistry in 1905, chairman of the department of physiology in 1909, and chairman of the department of physiological chemistry in 1916. He joined the Cincinnati faculty in 1918. His textbook, *Physiological Chemistry*, now in its sixth edition, first appeared in 1915. He is the author of several other books on biochemistry and related fields."

The Secretary has received from Mathews his regrets that, because of an accident to his wife (a broken hip from a fall, from which he reports good progress in recovery) and other conditions, he will

be unable to be with us; but he extends heartfelt greetings to all.

Regret to have to report that I have just received notice that our former Class Secretary, John Hall, passed on last April 15. Hope to write up an account of his career in our next issue of class notes. — CHARLES E. FULLER, Secretary, Box 144, Wellesley 81, Mass.

• 1893 •

Dale Bumstead, who spent two years with our Class at Tech studying Architecture, died on May 9 in St. Joseph's Hospital in Phoenix, Ariz. Shortly after leaving the Institute, he became connected with various mining companies in Colorado until 1897. He was then employed by the Du Ponts over a period of 25 years, giving special attention to the use of explosives.

Since the time of our 30th anniversary meeting, he had been engaged in the scientific development and management of a ranch in Arizona. The results obtained through the successful operation of the undertaking on a scientific basis "caused the federal government to regard it as a model farm which brought scores of weekly visitors, including royalty, to see it from as far away as Arabia and Iran. Before coming to Arizona, he had hunted big game in many parts of the world. Trophies of these hunts are in San Diego's Balboa Park and the Chicago Museum of Natural History."

He is survived by his son, Dale Bumstead, Jr., a contractor in Seattle, Wash.; a granddaughter, Mrs. D. B. McGaw, and a great-grandson of Seattle; and a sister, Viola Bumstead, of Denver, Colo. A very interesting and inclusive account of Bumstead's several accomplishments appeared in the May 10 issue of the *Arizona Republic*, Phoenix, Ariz.

Our annual luncheon meeting, held Wednesday, June 4, in the recently acquired quarters of the M.I.T. Faculty Club, was attended by 13 members of the Class residing within easy commuting distance of Cambridge. — FREDERIC H. KEYES, Secretary, Room 5-213, M.I.T., Cambridge 39, Mass. GEORGE B. GLIDDEN, Assistant Secretary, 38 Chauncy Street, Boston 11, Mass.

• 1894 •

A note has been received regarding John P. Story who was a student with us in the first two years at M.I.T. He has been active for many years as a real-estate broker in Washington, and his present address is 732 17th Street, N.W. On leaving the Institute, Story worked for two years with the Boston and Albany Railroad, and with the Southern Railway. He later entered the real-estate brokerage business and it seems he has been in this work for more than 50 years.

George Owen continues to serve the Institute in a very fine and practical way. He was one of the first to help develop sailing as a student activity, and designed the dinghies that made up the fleet. Now he is again serving in the designing of the new additions to the boats, which we understand are to be built of Fiberglas.

The Secretary was recently elected for the ninth time as the chairman of the

Board of Governors of the Refrigeration Research Foundation, Inc., at its annual meeting, which was held this year in New Orleans early in May.

According to the Secretary's cards, 41 of those who got their Bachelor of Science degrees in 1894 are still living. This is about a third of the class. The same proportion probably holds for those who did not complete their four years. If all would send letters from time to time about themselves and other classmates with whom they have contact, it would be most helpful and add greatly to the interest and value of the class notes.

After these notes had been written, the Secretary was delighted to have a telephone conversation with Alan Claffin who had returned home from a four-week sojourn in the Deaconess Hospital. A mild recurrence of a disturbance which had kept him hospitalized for seven weeks a few years ago was the cause of his second visit. But he is now back in fine condition of body and spirit, and is looking forward to a resumption of his business activities at once. He plans to attend Alumni Day and was commissioned to pass on to all attending classmates the good wishes and the regrets of the Secretary that he could not be in attendance this year because of a previous engagement in Grand Rapids.

Claffin passed on the news that Harold Chase, who for years before his retirement had been research director for the Dan River Mills at Danville, Va., had been induced to return to the service of the mills as active head of the dyeing department in addition to being general consultant for the organization. Sometimes it is found that we old chaps are not superannuated when the official retiring age comes to us. This is certainly so in Chase's case. After an operation for cataracts a few years ago, he sees better than for years, and is apparently in top form in every way. Congratulations to both these invaluable members of the Class. — SAMUEL C. PRESCOTT, Secretary, Room 5-213, M.I.T., Cambridge 39, Mass.

• 1895 •

We "toll the bell" again as we regretfully report the passing of Charles Arthur Meserve, Course V, who died last April 15 at his home, 128 Belmont Street, East Bridgewater, Mass., at the age of 78. After graduating from M.I.T., he was assistant instructor in food chemistry at the Institute for a year. He then studied in Germany until 1899, where he received his Ph.D. from the University of Erlangen. For two years he was instructor in natural sciences at Pawtucket, R.I., High School. In 1901 he became professor of chemistry and military science at the Connecticut College, and from 1903-1907 had a similar position at James Milikin University in Illinois. From 1907 to 1912 he was food and drug inspector in the U.S. Department of Agriculture, in the Pittsburgh district, and from 1913 to 1917, professor of bacteriology and director of the State Laboratory in the University of Arizona at Tucson.

In 1916 he organized and drilled the Tucson Rifle Drill Corps (N.R.A.), organ-

ized for public protection and border service. Meserve acted as commandant, major, of this organization, which consisted of 600 men. In 1917 he attended the First Officers' Training Camp Coast Artillery at Fort Scott, San Francisco, and was commissioned major in August. After being stationed at Fort Scott for six months, he was ordered to Fort Monroe in January, 1918, to join the 60th Artillery C.A.C., and sailed for France late in April. He was active in the Saint-mihiel drive and in the Argonne. He was ordered back with other officers to take over newly organized regiments. Returning from overseas, he landed the Saturday before the Armistice, and after that served at Fort Banks, near Boston, and later at Fort Williams, Portland, Maine.

Charles Meserve was a widely known college and high school teacher of chemistry and physics. More recently he taught at the high school in Wilmington, Vt.; in Newport, N.H.; and at Hanover, Mass. Throughout his life he followed his soldier instinct, making a good beginning as one of the officers of the Class of 1895, M.I.T. Corps of Cadets — alias Freshman Drill Battalion. He was active in Legion circles and a frequent attendant of the Charles R. Wilbur Post. He was a member and past commander of Hanover Post 189, American Legion, and also a member of the Veterans of Foreign Wars. He had active service with the National Guard on the Mexican Border. Meserve was buried with military honors, as members of the American Legion Post acted as both color guards and honor guards. Charley was a Mason, and a life member of St. James Lodge, A.F. and A.M., of Beaver, Pa. He leaves a son, one daughter, four sisters, and two brothers — all teachers.

Colonel and Mrs. Harold G. Fitz returned from Miami, Fla., on June 1, 1952, to their former address, Holley Chambers, 33 Washington Square, West, New York 11, N.Y.

Louis A. Abbot, Course II, has moved from Boothbay Harbor, Maine, to Arrow Road, South Duxbury, Mass. We learn from the Alumni Register that Charles E. Lockwood, Course IV, passed away on February 28, 1946. The last address we had for Lockwood was Waterford, Maine. He was with our Class from 1890 to 1892, and for years we had no correspondence from him. His former home was Ashmere Farm, Hinsdale, Mass. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

This issue of The Review is the final one for the fiscal year ending July 1. Consequently, these are the last notes until November. It has been a pleasure for your Secretaries to present to the Class timely comments of class events that have taken place during this period. We wish to thank those who have contributed to this end, and respectfully suggest that more news appear in our next year's program. A few of the Class have met the fourscore mark. A number will attain this distinction during the next two years. Advise us when this cycle approaches that we may extend our con-

gratulations to those of you who meet this issue.

Fred speaking, apropos of the above comments: "I know that John would not care for the publicity which, on May 4, was offered him in the surprise party sponsored by some 60 of his intimates, including top officials in both Technology and hospital groups. The presentation of a large silver tray, with the autograph inscriptions of those present engraved upon it, highlighted the affair. The inscriptions were arranged around the centerpiece, the Rockwell Coat of Arms. A portfolio of letters, written by earlier track and football teammates and others, furnished a setting to a delightful occasion which will long be remembered by those of us who were fortunate enough to be present. Following is a copy of the letter written by him, expressing his appreciation of this outstanding gesture of friendship and outlining his philosophy of life at 80:"

"My Esteemed and Loyal Friends: As the sunset glow at the end of a perfect day in May brightens the western horizon, I find my spirit still fired with the thrills of having weathered the various episodes of successes and failures during this 80-year span. Yes, the party was as great a surprise as it was a success. To those who manned the committee, I wish to express my admiration as well as my heartfelt thanks for so wonderfully engineering their objective to ultimate victory. . . .

"A machine is only as perfect as its weakest part. Life's journey toward this goal, with all its kaleidoscopic gyrations, emerges as an architectural plan in which many hands and many minds have directed the progress of its growth. Looking back through the years, I find that I have been singularly blessed with a background of physical fitness and have emerged with all the benefits of compatible influences. Whatever I may have accomplished toward this fuller life, I am forced to share with all of you who assisted, to a greater or lesser degree, in the construction of this humble and appreciative human machine, born May 4, 1872.

"Let us continue to direct our efforts to ever higher planes as our ultimate goal. Devotedly, Dr. John."

John speaking: "Fred Damon has just received a medal for having completed 50 years of membership in the Masonic Lodge; he is also the recipient of a medal for distinguished service."

The following report is taken from a clipping, dated May 11, New York *Herald-Tribune*: "The first K. C. Li Medal, with an accompanying \$1,000 prize for advancing the science of tungsten, will be awarded to William David Coolidge, 'for his conception and development of a method for obtaining ductile metallic tungsten to the benefit of all mankind,' it was announced . . . by Dr. Grayson Kirk, vice-president and acting head of Columbia University. Dr. Coolidge will receive the gold medal May 20 in a ceremony at the Men's Faculty Club, 400 W. 117th St. Director emeritus of the General Electric Research Laboratory in Schenectady, Dr. Coolidge, 78, retired in

1944 as a vice-president of the company. His production of ductile tungsten in 1908 made possible the tungsten lamp filament presently used in light bulbs." Congratulations to our classmate, William Coolidge!

We received the following letter from Marshall Leighton: "Your Class of '96 news column in the May issue of Technology Review gave me my first information concerning the death of Edgar H. Barker. I am deeply sorry. As you may remember, Edgar and I were roommates during three of my four years of attendance at M.I.T. In addition to that, we were intimate associates in musical matters. I mention these details largely to support the assertion that I had more thorough knowledge of Edgar than had anyone else in our Class. Accordingly, it seems fitting to recite certain circumstances which may be interesting to some who have a guiding hand in the framing and the conduct of our educational system. I am sure that Edgar would be glad to have the facts made known at this time.

"Edgar Barker was a keen and discerning student, and an industrious and faithful one. That he dealt with his chosen vocational subjects with vigor and success is proved by his achievements in after years. He became a distinguished authority in the textile production field. In his student days he was a helpful and inspiring companion, principally because he carried within his head and each evening could discuss clearly the lectures which he had heard that day in classroom. And now comes the strange feature of it. Edgar attended M.I.T. for six consecutive years, but he did not graduate because he was so seldomly successful in passing examinations in his professional subjects. Finally, the head of his course refused to admit him for a seventh year and he went back to his home in Lawrence, Mass., to all appearances a failure. Presumably the record of that failure occupies a place in M.I.T. archives. A short time thereafter, I was delighted to learn that he had been appointed professor of wool and worsted spinning in the Lowell Textile Institute. He remained with that institute for nearly 50 years.

"When he was refused admission into the seventh year at M.I.T., he had as much, if not more, of his chosen profession packed into his head than his professor had in his. Edgar could teach, soundly and with skill and impact. He advised in a consulting capacity in many textile regions with acknowledged wisdom. But he could pass only a few professional examinations at M.I.T. I do not know much about the methods of giving examinations at M.I.T. today, but I hope they are different from those of the nineties, and that account is taken of the occasional fact that there are excellent men who fail in written examinations. Edgar Barker was an outstanding example of such a man, and it was only because of his discernment and dogged persistence that he surmounted all his handicaps after he was rejected as a seventh year student at M.I.T. It seems as though there should be some way to correct or modify his record at the Institute."

We have received notice of the death of Charles Saunderson Newhall, 77, in Medford, Ore., on May 1. He was born in Lynn, Mass., July 19, 1874. Mr. Newhall was a prominent Rogue Valley orchardist for 44 years. In addition to his wife, he leaves a son and three grandchildren, all of Medford, Ore. He was a member of Phi Gamma Delta at M.I.T., a long-time member of the Masonic Lodge, and a charter member of the Rogue Valley Country Club and the Rogue Valley University Club.

Regardless of our political faiths, our duty is clear and demands a complete understanding of our various national issues. If voting was ever a must, this coming summer should be spent in serious study of our national problems, and find us voting for the principals which will again restore America to Americans. A happy summer vacation to you all.—JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge, Mass. FREDERICK W. DAMON, *Assistant Secretary*, 275 Broadway, Arlington, Mass..

• 1898 •

Our classmates, E. S. Chapin, Secretary, and George T. Cottle left April 15 by plane for a four-month trip to Europe. Accompanying them were Marion L. Chapin and the Misses Louise, Clara, and Phoebe Cottle. Their trip includes Spain, Italy, France, Belgium, Holland, England and Scotland, Germany and Austria, Switzerland, and so on, flying home about August 15 via B.O.A.C. They are making a study of beautiful churches and are attending the summer musical festivals in the European centers.

John W. Farley (special '98), who has been president of the Boston Children's Hospital since 1944, was elected chairman of the Board of Trustees of the institution at the last annual meeting in the Jimmy Fund Building at 35 Binney Street. Farley, described at the meeting as "a million a year man" from the fact that the resources of the hospital increased more than \$7,500,000 during his seven and a half years in the presidency, will continue to act as president of the Children's Medical Center.

Alfred W. Lombard, Arlington, Mass., is honored as follows, in the Springfield, Mass., *Union* of November 2, 1951: "Alfred W. Lombard, who has served in the Massachusetts Agriculture Division of Plant Pest Control and Fairs for 43 years and worked closely with the 4-H Department received a 4-H citation at the fourth annual State 4-H Club Congress in Boston last night. He retired as director of fairs from the Department of Agriculture, May 22, 1945."

During March the writer went to Florida for vacation and saw '98 men Albert W. Tucker, III, Daytona; Colonel Harold W. Jones, VII, Orlando; Professor Arthur A. Blanchard, V, Lake Wales; and Roger W. Babson, I, Mountain Park, Bok Tower.

A delightful afternoon was spent with Tucker at his home near Daytona Beach. Now retired, he spends much time beautifying his attractive home and grounds, in his hobby shop, and with his mineral

collection of ores found in southeastern United States.

Colonel Harold W. Jones, retired librarian of the U. S. Medical Library, Washington, D.C., now lives in Orlando. In a ranch house on a large corner lot with a beautiful garden, he has a delightful home for his genial and attractive wife and his Cadillac. His new medical dictionary, recently published, is both a literary and financial success. Congratulations to the doctor.

Arthur Blanchard was greatly surprised and pleased when I tapped his shoulder after dinner at the Plantation Inn in Lake Wales. He and his wife spent the winter there among a most genial group of friends. As the next day was Sunday, the Blanchards acted as guides on a trip to Mountain Park and Bok Tower for the Sunday concert.

Roger W. Babson has two homes in Mountain Park, one used as a real winter home and the other as literary headquarters, the latter called Chapin Gardens. This is a Moorish or Spanish castle overlooking Mountain Lake and surrounded by formal gardens. In the dividing wall between two of the gardens is a small stone building called "Fair Deal Club House." A crooked stairway leads from the garden to the second floor and every line of the structure, every pane of glass and every feature is crooked. Could this be a symbolic expression of the "Fair Deal"?

We express our deepest sympathy to Lester D. Gardner for the loss of his wife, Margaret, March 29, 1952. All who knew her admired her sterling qualities.

Next June will be our 55th anniversary. Our committee is already making plans for a big reunion to excel the 50th. Did you know that our 50th was the greatest success in Tech history? Other class officials are still asking how we did it. You did it. The 96 who came, some bringing their wives and children, had such a good time and have spread enthusiasm to all their friends. Our 55th may not be bigger, for many of our stalwarts have passed on, but it will be better; for the same planners and sponsors are doing the 55th. So make your plans now! And when you receive a request for data about yourself or the high lights of your life, co-operate completely with our committee.

For the next issue of class notes, send all the items possible to Edward S. Chapin, Secretary, 463 Commercial Street, Boston. Give him a good reception home from his European trip.—ELLIOTT R. BARKER, *Assistant Secretary*, 20 Lombard Road, Arlington, Mass.

• 1899 •

Edmund T. Stewart, IV, has had many interesting experiences during his architectural career. For a while he worked for the firm of Fay, Spofford and Thorndike on the design of the Army base in South Boston. On completion of this job he was put in charge of checking all the work on the powerhouse and underground piping where there was any variation from the original plans. He states that while this was very interesting work it was the dirtiest job he ever undertook.

Ed then tackled the job of designing Cities Service Oil stations in Boston. He did a fine job as all who have seen them will agree. For some time he was in Portsmouth, N.H., working on ship design, then went to Philadelphia with Monks and Johnson who were putting up large buildings for the Bethlehem Steel Corporation. Ed then joined Cox and Stevens, naval architects in New York City, and was assigned to the remodeling of the *Normandie* as a troop transport. Tables and equipment were set up in two cabins on the prominent deck but Ed's work was mostly in the hold 10 decks below. It was no hardship to him as there was an elevator available (when he worked on the *America*, which was four-fifths as large as the *Normandie*, he had to walk up and down an equal distance with no elevator, no ventilation, and a temperature of 110 degrees). Ed was on the *Normandie* when the fire alarm was sounded. Thinking it was a practice drill, he left all his instruments. But he saved all his blueprints. As each drawing was three by 18 feet, he had some handicap. Because of the rapidity with which the fire spread (the ship was approximately one-fifth of a mile long) and because he saw a fire hose which had been cut with an ax, Ed believes the destruction of the ship was due to sabotage.

The Thomas Todd Company has been producing fine printing in Boston for 87 years. This does not imply that Tom Todd, Jr., II, President and Treasurer, has been at it quite that long.

Change of Addresses: Albert F. Nathan, 530 Woodlawn Avenue, Plainfield, N.J.; Reuben S. Henderson, Post Office Box 428, Santa Barbara, Calif.; Edmund T. Stewart, Boulevard Apartment 2D, New Rochelle, N.Y.

We regret to announce the death of Bernard Herman, I, at his home in Washington, D.C., on May 1. The following facts were obtained from an obituary notice in the *Southern Railway Magazine* through the courtesy of J. B. Ferguson: After graduation from M.I.T., Bernard entered the service of the Southern Railway as assistant engineer in the bridge department. He advanced, successively, to chief bridge inspector, engineer of bridges, principal assistant engineer, acting chief maintenance of way engineer, and chief engineer, maintenance of way. Bernard was promoted to be assistant to the vice-president in May, 1920, and became chief engineer in 1924. He retired in February, 1946. John Ferguson says of Bernard Herman, with whom he has been in contact since M.I.T. days: "I liked and admired Herman very much and always felt he was a most genuine person, without an iota of smallness in him."—BURT R. RICKARDS, *Secretary*, 381 State Street, Albany, N.Y. MILES S. RICHMOND, *Assistant Secretary*, 201 Devonshire Street, Boston, Mass.

• 1900 •

Although these notes will be read by you in July, they are being written in May and consequently cannot give any account of the reunion. Our recent class letter has brought 37 replies so far—mostly with regrets at being unable to at-

tend the reunion. But among them are several interesting letters. Harry Chalmers writes: "My sons recently sold the house I built them in Quogue years ago and rescued my sheepskin dated 3 April 1901, which is now over my desk. Harry Tyler used poor ink which is almost faded away like General MacArthur. But Pritchett's signature is fresh as a daisy. I was sick last term of senior year and did a thesis and made up work during the summer of 1900 when I started my business, which was successful enough to get my three boys educated. My business was discontinued during the first war, however, because my raw materials were impossible to obtain. I also have a daughter by my second wife who is only 22, my first wife having died some 25 years ago. I suppose in a way I should get credit for my 10 grandsons and two granddaughters who are all well and a great joy to me. The two youngest I have not seen yet, as there are four boys in New Orleans, where H.B.C., Jr., is with the Shell Oil. The two last were born this year and the one before, now in New Orleans, was born on Washington's Birthday in Fairbanks, Alaska. Three boys and one girl are by my oldest son and live in Lloyds Harbor, Huntington, Long Island. He works in New York City and gets in about five days a week when the Long Island Railway is running. The other four are in Washington, D.C., the last my daughter's boy Joe F. Daiak, Jr., and the other three, two boys and a girl, my other son's. The name Chalmers will not likely die out as of course my sisters could only carry on under their respective husbands' names.

"I would like so much to see Joe Draper, Bob Blair, and George Atwood, to say nothing of Manley, Lawley, Walworth, and Thayer, Percy Ziegler, Charlie Smith, and the others, all of whom I remember so well. I was so urged to go to one of the reunions of 1901 that I accepted and drove up my old limousine Packard with a lot of the boys in it. However, I found I did not know any of them except Asher Weil'01 and Lamot du Pont'01, as I was never in that class and certainly I felt like a fish out of water. Will you give my best to all the boys, and it is possible I will get some money which I think is owing to me for some of my patents, in which case I can come next year. My wife writes children's books and is doing well enough to help out with rent and food."

Ralph Hamlin says: "Since you are so considerate of the 1900 associates, of which I consider myself one (having been there only during the senior year), I am moved to tell you why I cannot attend the gathering. My first wife died in January, 1950, and I have since remarried (February 2, 1952) and have moved to Reading, Pa. Have a consulting position with Gilbert Associates, since my age conflicted with their retirement age. Having started work only on January 28, and also since we are very busy, it seems hardly advisable to take a week off so soon. Possibly next summer I could take it, if you have another meeting."

From Francis C. Lincoln: "Thank you for your interesting report on the Class

of 1900, M.I.T. I am sorry that I am not near enough to attend the class reunions, which seem to be so pleasant and successful. There is probably a much better chance of some of my old classmates coming to California for a visit than of my going East. Please tell them that if they come this way I shall be disappointed if they don't look me up! It may interest members of the Class to know that my son, Captain William T. Lincoln, is now taking an Army course in electronics at M.I.T. He is a West Point graduate, has spent three years with the Army Signal Corps in Germany, and is now living with his wife at 305 Concord Turnpike, Arlington. Our younger son, Robert, is chemical engineer for the Foote Mineral Company at West Chester, Pa., and recently motored out here for a nice visit."

And from George Moody: "At 74 the infirmities of age are creeping up and I have spells when I am not up to going anywhere, while at other times I feel pretty good. I cannot predict how it will be, so you will have to mark me down as indeterminate. But this I can say. I had a very pleasant time down there at our 50th reunion and was glad to be there. I think it is a beautiful location and anyone would be delighted to be there in the summertime. I would also like to say that I appreciate all that you, Ziegler, and Fitch are doing to keep the class spirit alive, and I feel that all of us old grads owe you all a vote of gratitude. I see by your figures that there are still 81 of us left and I hope a goodly proportion of those will be able to make it to 80, including myself."

Harold Morgan writes: "Was pleased to get your report on the state of our Class. The statistics were of great interest to me. We have a goodly number living for a class of 52 years ago. Am sorry my walking is no better than last year. I get around with a walker and can navigate about the yard. It is better than a wheel chair as it keeps my legs from getting useless and much easier to handle. I can't, however, get farther than the yard limits."

Tom Perry says: "I am exceedingly sorry that I cannot be with the gang at Cotuit in June. Your letter of the 6th with its vital statistics is a bit disheartening. Evidently only about 40 per cent of us are still above the sod. But that is much better than my college class of 1897, with four survivors out of 17 graduates. I was at M.I.T. briefly on April 25, giving my annual talk on plywood and adhesives to students in the Building Engineering and Construction Course, and had lunch with Percy Ziegler. We were only there a day since we brought home with us two grandsons, as Thomas D. Perry, Jr., and his wife are spending May in Europe with the Boston Symphony Orchestra, of which he is assistant manager. My major activity at the moment seems to be that of chairman of the Town Planning Commission, with a definite surge of new residents due to the new steel plants along the Delaware River disturbing the serenity and complacency of an old Quaker settlement, with growth and expansion plans makes the going a bit tough.

"Mrs. Perry and I are blessed with remarkable health but are considerably slowed down, as are we all. However, eight grandchildren in Portland, Hingham, and Tuckahoe do much to break the monotony and at frequent intervals. With additional activities in gardens, stamp collecting, professional writing, and church work, we appear to have very little idle time to get into mischief and deviltry. Another project, assigned to me by the American Society of Mechanical Engineers, of which I was elected a life fellow a few years ago, is a paper for the centennial of engineering on the last 100 years of plywood, to be presented at the Engineering Convocation, as it is called, in Chicago this coming fall."

Charlie Smith has sent us the following comprehensive picture of Brazil, as he sees it: "Here I am in the best of health after spending the hot summer here from January 21 to date (May 9). Tomorrow I fly from here to Lima, Peru, en route home through Panama, Miami, and New York. After a week there, I go to Washington for further study, briefing, and instructions. Brazil has a great desire to modernize but has a long way to go. With immense deposits of iron ore of high quality, it did not have a significant steel mill until the United States, through an Export-Import Bank loan, got them started in World War II. It is now going strong and expanding. It has no good coal nor any significant amount of oil. Yet expanding industry calls for more and more foreign coal, oil, and manufactured articles, which require more United States dollars than they have. The use of automobiles, Diesel engines and fuel oil is increasing so rapidly that a serious dollar problem is inevitable unless they strike oil here in appreciable quantities.

"The government is highly nationalistic. Brazil for Brazilians and Brazilians for Brazil is the motto. This is all right except for the impact on foreign investments, caused by nationalistic restrictions. The problem here is not how to make money—everybody is doing it—but how to get profits out of the country.

"Rio is a most unusual city. Eons ago, volcanic upheavals threw up several mountains and many granite cones or mounds—small mountains dotted all over the city. Streets run around and through them. Homes and apartment houses are built up their slopes and backed up against cliffs. Real-estate developers and the City-Federal District are continually hacking away, removing the smaller ones to create more level space. The older part of the city spreads out and up the slopes. The newer part, and much of the older front, is going up in the air with 12- to 16-story apartment houses. Hundreds are under construction. There is a real estate boom here—in the vertical, not horizontal like the Florida boom. There are only 500,000 autos in all Brazil, but it seems that there are more than that in Rio, driven by crazy drivers. The traffic rules are generous and speed is the order of the day. Pedestrians must look out. They have no rights whatever. The accident and casualty rates are high.

"On the residence side of the city,

there are miles of beautiful boulevards and walks following the marvelous beaches, but otherwise there is little to attract visitors. It is definitely not a tourist city. Our engineers and architects could learn a lot from those here, particularly in reinforced concrete construction. They have been so short of steel and cement that their designs are economical and unique. The largest stadium in the world is here, of reinforced concrete. A complete circle; two levels of seats. No columns under the upper level which — and its roof — are cantilevered from the outside walls. A striking structure.

"Although general education of the masses is not as extensive as one might wish, their technicians, doctors, and engineers, in particular, are well educated and usually complete their education in the United States. So many engineers carry doctor's degrees, it is usual to call all engineers 'doctor.' Somehow the railroads here have been neglected. They need a lot of money for rehabilitation."

We have received word of the death on February 29 of William H. Hubbard, and on April 7 of Percival E. True, Course X. — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

• 1901 •

More news from the class letter replies. Ward Coburn — semiretirement; acting consultant with E. and G. Brooks Iron Division, Colorado Fuel and Iron Corporation, at Birdsboro, Pa. W. G. Blauvelt in California — retired in 1932; taking it easy. Freeman Goodwin, Portland, Maine: "Am retired. Been out of touch with classmates for so long have nothing of interest to write about. Located at present in Maine but want to get back to Massachusetts. (Do not like Maine or these 'Onery Mainiacs'; want to get far away from them.) Looking for some town in Massachusetts or New Hampshire where my neighbors will be 'executives,' professional men, and so on; and when I find it, will sell out here quick and get there." Archibald Klieves, Wheeling, W.Va.: "Retired. I am still a member of the Wheeling Housing Authority. As an amusement, do some small machine work. At present I am working on a one-half-inch-scale steam locomotive." Ralph Stearns: "Retired, yes. Doing routine work in and for the house. Playing golf and bridge. A little welfare work." Harry White has no news to report except to speak of the good time that he and Mrs. White had at the reunion. Everett Pendleton retired in 1947. He says: "Since then have published *William Holloway of Taunton, Mass. in 1637 and His Descendants* (1950), *Brian Pendleton and His Massachusetts, 1634-1681* (1951) Now busy on some other projects of a like nature." Bob Williams replies: "Retired in January, 1949. Present occupation is making out income taxes. Visit my daughter in Connecticut winters. When home I am busy looking after my house and having repairs made. For a vacation I drive my car to the White Mountains." Anna Gallup retired in 1937 and is now doing a good deal of work for her church besides taking care of her apartment.

Phil Moore writes me from Maryland: "Mrs. Moore and I got back here on the eighth of March. I had to go to Chicago the following week and now I am just beginning to get caught up. The class letter was full of interest as usual. It is good to get word from the boys. We had a long but good trip this winter. Left here January 7 and drove to Florida. Called on friends and relatives there. I don't think there is any distinction in my case. Went down the East Coast and crossed over to Naples. Thence, up to St. Pete and Clearwater. Al Higgins and Eddie Seaver and their wives were on hand and we had a nice two days together. I would dislike to start any controversy as to the relative merits of the East versus the West Coast, but the latter seemed less crowded and so we liked it better. We were impressed with the through roads on both sides of the peninsula; lots of room and one can get over a lot of miles in the course of the day. From Clearwater we started for Arizona. We came back more directly through Carlsbad and Hobbs, N.M., Dallas, Vicksburg, Gadsden, then north through Chattanooga to Ashville and over the Blue Ridge Parkway to Natural Bridge. Then through Richmond home. Altogether it was a good winter trip and I guess it did not hurt us any. Fred Sexton's report is very interesting reading. I guess I must have read in the Review notes that Carl Johnson was improving from whatever it was that laid him low. He appeared the youngest looking member of the Class last June."

Arthur Davis in Gloucester writes: "Slowed down but not retired. Am president and manager of Frank E. Davis Fish Company, a mail-order business furnishing Gloucester fish direct to families all over United States." Charles Culp reports from Seattle: "Barring physical incapacity, I have no thought of retiring. Nearing my 76th birthday, I am the oldest certified public accountant in the state of Washington in active practice. There will be a graduate seminar at Alderbrook Inn near Union City, Wash., May 22, 23, and 24, which I shall attend along with all the younger men."

This is the last word that you will hear from the Secretary until The Review starts again in the fall. A pleasant, restful summer to you all. — THEODORE H. TAFT, *Secretary*, East Jaffrey, N.H. WILLARD W. DOW, *Assistant Secretary*, 287 Oakland Street, Wellesley Hills 82, Mass.

• 1903 •

Those of us who have attended class reunions for the past 15 years will be saddened to hear that Mrs. Robert J. King died April 6, 1952. She enjoyed attending the class parties with Bob, and made many friends there. We shall miss her pleasant ways and real interest in class affairs. The sympathy of the whole Class is extended to Bob.

George H. Clark has popped up again after a long silence. Clark was with R.C.A. for years and, back in 1936, he wrote a letter to the secretary of the Alumni Association, asking who the secretary of the Class was. Charlie Locke

answered his letter and referred it to us, and we also wrote him, but heard nothing from him further. In the Boston Sunday *Globe* of April 20, 1952, appeared the following paragraph: "At a formal dedication last Wednesday, a valuable collection on the development and growth of the radio industry was presented to M.I.T. Begun by George H. Clark before his graduation from M.I.T. in 1903, and continued over the later years with the active support and encouragement of R.C.A., the collection is known as the R.C.A.-Clark Collection of Radioana. Its diverse materials are the equivalent of approximately 5000 volumes." We hope some day Clark will feel like attending one of the class reunions. Perhaps next year?

These notes will appear after Alumni Day, so we will just wish you all a pleasant summer for those who have retired, and a vacation to those who still work. As the result of our class letter, we have heard from Millard, Cross, Harlow, Sears, and Welsh. Millard is "looking forward to attending the 50th reunion next year." Cross tells of his activities in retirement, is in good health, has eight grandchildren, "acts as 'Gray Man' at a Veterans Hospital for Mental Patients once a week," and spends time at his camp cutting wood and pruning new trees he has set out. Does not think he will attend any class reunions as he says he has "very few friends in the Class." Harlow doubts if he can be present at the 50th reunion, adding a bit of comment, "50 years of existence is something," but thinks "a get-together would be a matter of meeting strangers whose lives and interests have been along as many separate paths." Sears suggests a week end at some good hotel on Cape Cod, and adds, "by all means I think we should bring our wives." Welsh also is in favor of a week end on the Cape "with at least our favorite wives along." Let's hear from many more of you. Glad to hear that Fred Eustis is back again from a trip across the Atlantic to northern Africa, and Spain and Portugal. He should have some interesting things to talk about. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

• 1904 •

The circular letter to the Class brought forth several replies which we were delighted to receive. Unfortunately, they came just after the deadline for inclusion in the June issue of The Review, so here they are in July; rather late but none-the-less welcome. The first was a letter from "General" Holcombe, as follows: "Your greetings and salutations are reciprocated. I am supposed to be in partial retirement but still go to the office six days a week when in Washington. Last year I took six weeks off and went to Germany to visit my daughter, who is a vice-consul in the U.S. Foreign Service, then at the Consulate General in Frankfurt and now acting as land observer at Mainz in the French sector. I also stopped off in London to see some clients. A most interesting trip. This year I took five weeks off

to get married and honeymoon in Florida. The bride is Martha Ellicott Ramey of Sandy Spring, Md., widow of General Howard Knox Ramey who was General MacArthur's Chief of Air and was lost in the South Pacific in World War II. We were married February 19 at the Unitarian Church in Germantown, although she is a Friend. We first occupied her sister's cottage at the Highland Park Club, Lake Wales, for a week and then visited in and around St. Petersburg, where we bought a home at 125 Almedo Way on Snell Isle, bordering the 11th fairway of the Sunset Club. Fellow golfers, please note.

"I am in favor of a 50th reunion at Osterville or other like place easily reached by land, sea, and air, with wives preferably, immediately preceding or following the Alumni Day exercises rather than later in June. I think we ought to be present in a body on Alumni Day, so that the youngsters can see what good lives we have led. Please pass the word along to the class stalwarts that I have taken a new lease on life and feel very good about it, although my golf and bowling scores do not show any noticeable improvement."

The second letter was from Jim Metcalfe, from which we quote: I have nothing of interest to report other than that I retired from active services with the Louisville and Nashville Railroad on April 20 and am now a gentleman of leisure. So far so good, but if I get tired of loafing will probably go to farming in Bourbon County, Kentucky."

Then came a note from Bob Sosman, as follows: "Robert B. Sosman '04, Course VIII, Option 3 (Electrochemistry) and Ph.D. '07, on retiring from the Research Laboratory of the United States Steel Corporation, has become Visiting Professor of Ceramics at Rutgers University, the state university of New Jersey, and finds himself busier than ever as consultant in pyrometry and refractories. He recently became the seventh individual to have completed on foot the full length of the Appalachian Trail, from Maine to Georgia, 2,040 miles."

Then came a nice letter from Bill Eager which says: "Your class letter of April 17 is received. Glad you mentioned that leisure business. It's swell. I always supposed when a fellow retired he could do all the things he had always wanted to do but never had time for. It doesn't work out that way. I officially retired seven years ago. Right away this old company or that new outfit wanted engineering help. Very nice and interesting and brings in an occasional piece of small change which Uncle Sam immediately says 'Gimme.' Or the phone rings: 'Bill there's a meeting of your committee at the chamber office tonight at eight o'clock, will you be there?' Or: 'Bill you have been elected chairman of the committee to round up stray pooches and return them to their rightful owners.' Don't talk to me about beautiful leisure. Then you mention the 50th reunion. Gosh, it's only a couple of years off, isn't it? Personally, I should like to see our activities, at least the major ones, held in Cambridge. I assume suitable accommodations are at hand. Cape Cod has always been delightful on the occasions I have been fortunate to attend. But we have some

part in the graduation day activities if I remember rightly, and, besides, there is so much new to see in Cambridge it seems to me we could profitably and pleasantly hold it there.

"We are packing up our things preparatory to moving to Carolina where we are going to make our home. We are doing this to reverse the order of living. Instead of going south every winter for three or four months to get away from this lousy climate, we will live down there and come north in the summer for a couple of months, thus living out of doors in the good old sunshine all the year round. Because of above-mentioned activities, I will not be on hand this June for which I am sorry. Still remembering what a good time we had on the 45th. And now the 50th. Gosh, I must be awful old and too senile to know it."

Then came one from Henry Richardson as follows: "Yours of April 17 found me quietly (?) retired on three jobs this month. Took me from Salem, Mass., Norwich, Conn., and Pittsburgh. No chance to grow barnacles, these natural gas problems keep me from fossilizing. Our classmate Bob Sosman (R. B. Sosman, VIII) was made an honorary member of the American Ceramic Society at Pittsburgh, April 29. Only nine members so honored. Yours truly was made a Fellow of the same society (A.C.S.) same night. This makes three 1904 members Fellows of the A.C.S. Society. That is, R. B. Sosman, Karl E. Peiler, and H.K.R. Many other M.I.T. men were represented at the meeting. Glad to see the news in last issue of *The Review*; hope the fellows keep up the writing."

We think you will all agree that the above letters make interesting reading. It would be fine if others in the class would follow suit and send something about themselves.

Readers of the Boston Sunday *Herald* were greeted on April 27 by a front-page picture of Dwight Fellows receiving the top prize (\$10,000) in the *Herald-Traveler* "Know New England Contest." Congratulations Dwight! Don't spend it recklessly and put some away for our 50th reunion. A note from Steve received soon after the above event gives all the credit to the instruction Dwight received from Arlo Bates. Remember those happy (?) days in Huntington Hall? Steve also said he had started writing his biography and had progressed as far as the date and place of birth. That's a fine beginning for any biography. Speaking of books suggests the recent announcement of D. Van Nostrand Company that the third edition of Hayward's *Outline of Metallurgical Practice* will appear in May. It hasn't come off the press at this writing but it will doubtless have appeared before these notes are written and one of your voluntary Secretaries will have heaved a great sigh of relief.

One more of our classmates has passed away. This time it is Edward L. Doyle, former supervisor of wires and conduits for the Boston Elevated Railroad. Services were held at the Sacred Heart Church in Roslindale, Mass., on April 26. His widow and three sons have the deep sympathy of the Class.—EUGENE H. RUSSELL, JR., 82 Devonshire Street, Bos-

ton, Mass. CARLE R. HAYWARD, Room 35-304, M.I.T., Cambridge, Mass.

• 1905 •

Bill Clarke, I, writes from his home, 601 North I Street, Tacoma, Wash., as follows: "I am not one of those who are 'not reading the class notes in *The Review* any more,' but I do have to admit being one who has not sent in much, almost nothing in my case, in the way of notes though I will not concede my being 'so dead.' Rather my failure has been because I've been one of those others you described whose accomplishments haven't seemed to me to be of enough general interest to warrant, or even justify, the telling. I was retired from Federal service in November, 1949—note I do not say I retired, meaning voluntarily, but was retired, meaning mandatorily for age. Since then I have been doing residential appraisal under the G.I. loan program of the Veterans' Administration which, for the past nearly a year, has been a part-time occupation. I have recently acquired my fifth grandson, the third in the family of my son who is now a Lieutenant Commander in the Supply Corps of the Navy stationed at San Francisco. My daughter in Portland has two boys. Just now I am beginning to plan for the trip by automobile to Amherst for my 50th class reunion there June 6 to 8. That is going to give me the chance to be in Boston, I hope, for Alumni Day, which I believe is June 9. I shall hope to see you then. However, this trip will undoubtedly preclude any possibility of my being at Technology in 1955. Our budget of fixed income of depreciated and still depreciating dollars will effectively prevent any such further extravagant luxury."

Al and Emily Prescott report a happy sojourn to Florida in February, apparently seeking '05 men without success. Those making similar trips should get an itinerary from the Secretary as many '05 men living or vacationing in Florida notify us of their plans. The Prescotts have six grandchildren "all the way from Natick to New Jersey to Honolulu. Son-in-law Harry Roberts has just been appointed assistant to the governor at Honolulu." Al is still carrying on, designing and building industrial dust-collecting systems (A. W. Banister Company, Cambridge, Mass.). Says it's fun now that son Donald carries the big end of the stick. Ralph Hadley, I, back from a Florida trip, reports seeing Clarence Gage, II, and finding him in not too good physical shape.

Percy Hill, II, winter address 29 Richmond Avenue, Ridgewood, N.J., summer address East Conway, N.H., gives us this personal bit of news: "It was in June last year, after we arrived at our place in East Conway for the summer, that Mrs. Hill became ill and gradually grew worse until in the latter part of July she collapsed. The local doctor said she had a growth which he could not diagnose. He recommended either the Massachusetts General Hospital or a return to Ridgewood and our own doctors. We decided to return home and broke camp the second week in August. Then followed endless

pictures and consultations. The final verdict was a dead kidney. So in September a nephrectomy was performed at Valley Hospital in Ridgewood and the operation was successful; there was no malignancy. After 18 days in the hospital, Mrs. Hill returned home to my care. She improved rapidly and at this writing has resumed her social activities and is looking forward to full recovery after another summer in the air of the green hills of New Hampshire. On the fourth of January I fell down the basement stairs onto the concrete floor and broke both bones of my left arm at the wrist. Plaster cast for six weeks. Elastic bandage for two weeks. Here I am right now with a partially swollen hand, still too stiff to grasp anything except the steering wheel of the car which I have been driving for about three weeks. Fortunately, by the time of my accident Mrs. Hill was up and about so that with my good right arm we were able to carry on together. We are both hoping that by the middle of May we will be strong enough to travel north. My two grandchildren are boys eight and 12. Both are expert cribbage players. I doubt very much if I ever again attend a reunion. This is simply being honest with you and with myself. Just a matter of economics."

Joe Daniels (326 Roberts Hall, University of Washington, Seattle, Wash.) is one of our best correspondents. His letter is so wholesome, so typical of himself, that I am quoting from it: "I certainly appreciate your thoughtfulness in writing the letter of April. It is the first firsthand word I have had about classmates for a long time and, in its informal manner, was much more interesting than reading a condensed printed account. Your remarks about daughters caught a responsive echo. We have three girls, all went through the university (one at Stanford), and they certainly are expensive luxuries, even after marriage, for they need some attention then. Our youngest, unmarried, is just beginning to face the hard realities of a job downtown. But, as you say, they are well worth working for. Thompson's Spa! That brings back old remembrances of a fountain, and so on. Recently, one of our neighbors went out to a place to get some oysters. (We raise Japanese oysters from seed in local waters.) He brought back several sacks of clusters and we had an old-fashioned shucking bee in his basement, ate baked oysters (some shells were 12 inches long), and had a real feed. We took home a goodly amount of these large oysters and had oyster chowder. I told my wife about the oyster stews we used to have when I was a young man, particularly during the winter months. I remember going to the 'Woodcock' for their famed stews. Alas, I can no longer stomach the pickles, horse-radish, and other condiments! I hope you will say hello to all the men you meet who remember me. I recall most of them and recall the wonderful days we spent together at M.I.T., then the years of the earlier reunions. Our place is especially beautiful right now with early blossoming plants, shrubs, and trees. Gladys is a nursery man by avoca-

tion and so we always have a wonderful display of unusual things."

Roy Allen, III, is another faithful correspondent and he certainly gets around. Again we quote from his letter of May 10: "We left Cambridge, N.Y., the first week in August for a trip west. Spent seven weeks and drove nearly 8,000 miles between that place and Berkeley, Calif. Visited many of the national parks in the United States and Canada, and mining camps where I had worked years ago, many of them now ghost towns. We spent three months in California and 10 weeks in Arizona, and put many more thousand miles on the speedometer. Saw Dick Senger in Salt Lake City. He appeared well and contented. Retired some five years ago, but still is called upon by his old company, the American Smelting and Refining Company. Joe Daniels is as full of life and energy as ever. He showed us around the University of Washington, and some of the research work which he and his department are doing. He has a nice home in Seattle. Called on Charlie Dean and wife in Carmel, Calif. As you know, he retired some 20 years ago. Has a charming home and enjoys life. I got tired of doing nothing but driving around, and so on, and did not want to return to Cambridge in the winter, so when a chance came of a job as assistant engineer with the Palo Verde Irrigation District, I took it, which accounts for the above address. The district has about 105,000 acres that can be irrigated by gravity from the Colorado River. The 62,000 acres under irrigation last year produced crops that sold for nearly \$16,000,000 — cotton, melons, lettuce, and alfalfa, in that order of importance. Several thousand more acres are being cleared this year, leveled, irrigation and drainage ditches enlarged and extended, and the land leached and made ready for cultivation. Blythe is a clean little city of 4,000 people, with paved streets 60 to 90 feet wide between curbs, the only incorporated town within a radius of 100 miles. It is surrounded by desert, and is reputedly one of the hottest spots in the United States, so we may be returning north and east before many weeks. Thermometer readings shortly will be between 110 and 125. Today, with our oversized cooler going, the house temperature is 90, or a little above, so we are not uncomfortable if we stay inside." Roy's present, apparently temporary, address is 275½ North Broadway, Blythe, Calif.

This change of address is recorded: Walter K. Gillett, 17 Sanderson Avenue, West Caldwell, N.J. — FRED W. GOLDTHWAIT, Secretary, 274 Franklin Street, Boston 10, Mass. SIDNEY T. STRICKLAND, Assistant Secretary, 69 Newbury Street, Boston 16, Mass.

• 1906 •

Under date of April 27, the Secretary received a letter from Percy Tillson from Harrisburg, Pa., which read as follows: "I ran across the enclosed copy of the Hercules Powder Company paper that was all to the glory of our classmate, Leavitt Bent, its retiring Vice-president. Apparently he was a credit to the Class

in the chemical field. I have little personal news. As you know, in 1950 I retired upon reaching the Bell System age of maturity. I soon took advantage of my increased leisure by spending a couple of months in Europe renewing my World War I impressions of London and getting over to the Continent. I am now doing some analytical report work for the Pennsylvania Department of Highways: interesting, not too high pressure, and keeps me out of mischief. I've not seen an '06 man for a long time as they are scarce in this vicinity. The last was Walsh, whom I met at an alumni meeting in Philadelphia over a year ago."

The paper enclosed by Tillson was a copy of *The Rocket*, which is the home-office publication of the Hercules Powder Company, dated Wilmington, Del., March 27. It included an extensive account of Bent's career with the company and the celebration in connection with his retirement. Extracts from the account are as follows: "Mr. Bent was born in Framingham, Mass. After graduating from M.I.T. he spent the following year as a research assistant in applied chemistry there — the first person to hold that post at M.I.T. He entered the explosives industry in May, 1907, as a chemist with the Independent Powder Company at their Joplin, Mo. Plant, and was plant superintendent in 1914 when Hercules Powder Company purchased the Independent Powder Company. After the transfer of ownership, Mr. Bent remained at the Joplin Plant as superintendent for a year. In 1915 he was made a representative of the general manager of the company to assist with the war production work at Kenil, N.J. Plant and later at Parlin, N.J. Plant also. A year later, he moved to the company's kelp plant at San Diego, Calif., as superintendent. In 1918, he transferred as manager to United States explosives plant 'C' which was operated by Hercules at Nitro, West Va. With the close of World War I, Mr. Bent was appointed technical manager of the Industrial Research Department in Philadelphia. In May 1921 he was made an assistant general manager in charge of the manufacture of naval stores, nitro-cellulose, fulminate of mercury and blasting caps. He is a member of the American Chemical Society and of the American Institute of Chemical Engineers. During World War II he served on the War Labor Board and the National Defense Research Committee of the Office of Scientific Research and Development. Throughout his career with Hercules, Mr. Bent has been respected for his high ideals and ethics as well as for his warm appreciation of those about him. His analytical mind, rare business understanding, and great faith and great courage have been of immeasurable aid to the progress of Hercules Powder Company. Needless to say, his presence will be missed by his many associates. The Bents currently are living at 1301 Gilpin Avenue, but will make their new house at Oxford, Md. their residence upon its completion."

The Secretary acknowledges a very attractive post card from Chester Hoefer forwarded from Rome about Easter.

Chester's message was as follows: "We have been here now three weeks but have in no way exhausted our interest in the Roman scene. Went down into the catacombs where the early Christians, hounded, persecuted, and pursued by the Roman emperors, worshipped secretly and buried their dead. This Holy Week is an experience long to be remembered." — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

During the month of February, I had occasion to write a letter to Carl Bragdon, who is manager of the Special Service Department of Interchemical Corporation Research Laboratories, 432 West 45th Street, New York City, with reference to a matter pertaining to the work of Whitin Machine Works. I received a reply from his secretary saying that he was in Mexico on a business trip, and subsequently, under date of May 3, I received from him a letter from which I quote: "Mail piled up very high during the six weeks my wife and I were in Mexico, and since the request in your letter of February 21 (three days after we left) had been taken care of, I'm just getting around to a personal acknowledgment. The trip to Mexico was the third within three years on an assignment for the company to make a survey and then set up a manufacturing operation in industrial finishes, to supplement one in printing inks that we've had there for five or six years. When you say 'Mexico' to most people, they think 'Ah, what a nice vacation!' This was anything but that; I was hard at work six days a week — and when we did seize the occasion of a holiday to go sight-seeing to Oaxaca, we ran into a local revolution, with all shops and markets closed, and were barely able to get about to see the wonderful archaeological remains. At least, it is a satisfaction to know that the job turned out even more successfully than I had hoped. Since our return, we've driven up to Toronto for a week's visit with our youngest daughter, her husband, and two babies. That's the Welsh son-in-law, whom Nan went over to marry in 1946 and who was city and county prosecutor in Blackpool and Wakefield, England, until they emigrated in 1950. Through connections which Clarence Howe kindly opened up in Toronto, Craig (Hughes) has been with an excellent law firm there and has qualified as a solicitor. We have two other grandchildren, daughters of our oldest daughter Patsy Abbott, who with her husband lives here in Larchmont; and our other daughter lives with us, so we're not as scattered as we've been a good deal of the time since 1942. I'm still keeping the possibility open of getting to the reunion. I'm the corporation representative for American Society for Testing Materials, which is having its 50th anniversary meeting in New York beginning June 22, but I hope to avoid any conflict there. I'm doing quite a bit of outside consulting work now, as I retire by stages from Interchemical, but that, too, I hope to arrange so that it doesn't hold me away. But if I

don't find it possible to come, this will serve as my biographical sketch, and please give all the fellows my hearty greetings." Carl's home address is 4 Rock Ridge Road, Larchmont, N.Y.

Most of you men will remember that George W. Otis, called Bill, was president of our Class during our freshman year at the Institute. He has always been one of the most loyal supporters of the activities of our Class, attending reunions whenever he could. In the early part of April, I learned through Wheaton Griffin of the death of Bill's wife on February 18, 1952, and on behalf of the Class I wrote him a note of sympathy. Soon afterwards I received from him a letter, which although somewhat personal, seems to me to be appropriate to include in these notes: "You were ever so good to write me the note of sympathy as both from you, personally, and the men of '07. It seems such expressions coming from my men friends are more appreciated than from others. Edith and I were very close and congenial, and the separation from her in this life after 40 years of sublime happiness together and the heartbreaking loneliness that follows are hardships that no one can fully appreciate unless they have experienced it. I am greatly consoled by the thought I am bearing it instead of her. Bill Woodward and many others in the Class who knew Edith have gone, but I am glad we visited Wheaton and Anna Griffin just about a year ago. Also my mind runs to John Frank who happened in at the Technology Club about the time we were married and came to the wedding. Also we had enjoyable visits with John later in Bermuda and Chicago, and I suppose he does not know of Edith's passing. I am hoping to attend the reunion on June 20 to 22, but it is hard to tell definitely yet. Wish Wheaton would go, and we could room together."

When you received the notice regarding our reunion, you no doubt observed that included in the list of names of those who had expressed their intention of attending were the names of Harry Burhans and Ed Sargent. During the early part of May, however, I received a note from Mrs. Burhans which said that Harry had been very ill since November 10, 1951, when he had an attack of cerebral thrombosis. She said that at that time he was much better but could not attend the reunion. I also received a note from Ed Sargent dated May 16 which reads as follows: "I had very definitely promised myself that I would attend our 45-year reunion, but while I was in Florida this winter I had what was presumed to be a minor operation but which turned out to be of a very major character, and the surgery I had down there was not the best. The result was that I had to spend several weeks in the hospital here, and I am still only on a part-time basis. I suspect that I won't be able to drive a car for any distance for a couple of months, so that, all in all, I am fearful that I can't come to Oyster Harbors. Another thing: My son Edward, Jr., is getting his Ph.D., at Cornell in the middle of June, and I naturally want to be there, so I am afraid that's that." Ed is chief engineer of the

board of Hudson River Regulating District, Albany, New York.

In view of the fact that our reunion took place during the latter part of June, it was of course impossible to have an account of this event in my class notes for this issue of *The Review*. I shall plan to have a full story in the issue of November. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1909 •

In *The Review* a year ago, July, 1951, we reported that Edward D. Merrill, I, who had been president of the Capital Transit Company of Washington, D.C., since 1937, was to retire. Recently Johnny Nickerson, II, sent us a clipping from the *Washington Evening Star* showing Ed's picture and stating that he had been elected president of the Washington Board of Trade and will take office on June 30. He has been the first vice-president of the board during the past year. In addition, he is a director of the Riggs National Bank, a national councilor of the United States Chamber of Commerce, a member of the Laymen's Committee of the American Bar Association, and past president of the American Transit Association. He is still a member of the Capital Transit Board. Ed, like so many others, reflects much credit on the Class.

We have already reported that Johnny Davis, II, has become quite successful as a painter in water colors and that his work has been displayed at several exhibitions. This year one of his paintings, a scene at Crow Point, Hingham, his summer residence, was displayed at the 25th annual exhibition of the Business Men of New England, held in the New England Mutual Life Insurance Building in Boston.

Johnny recently received a letter from Harold Paine, X, from South Yarmouth, Mass., in which he says: "I was surely surprised to hear from one of my old hockey mates. I must apologize for not replying before, but I have been traveling. Was at Venezuela, where your letter was forwarded. Also in Miami, and several places in Florida and Virginia and New Jersey. Now retired and will be here for about four months, and Florida and New Jersey for the rest of the time. A great program if I can carry it out. My retirement was from the Du Pont Company where it is obligatory at age 65. Sorry to hear of your illness but note you have recovered. Lots of water has passed under the bridges since we struggled to skate up and down the rink and stay upright. I often remember the Brown-M.I.T. game where I played for the former and scored the only goals to beat M.I.T. and later reversed the situation on M.I.T.'s side. I don't think you played in the first game which is why Brown won." (We reported more than a year ago of Harold's retirement from Du Pont.)

Ken May, VI, who is with the investment house of Whiting, Weeks and Stubbs of Boston and who lives in Newton Highlands, has recently sent us his family record. Kenneth and Frances have three married children: Mrs. Henry (Margaret) Harwood, Waban, Mass.;

Mrs. John E. (Elizabeth) Dorer, Snyder, N.Y.; George B. May, Wethersfield, Conn.; and 11 grandchildren (five boys and one girl in Waban; one boy and two girls in Snyder; one boy and one girl in Wethersfield).

We received a brief note from Lewis Johnson, VI. His stationery has two maps at the top, one showing the location of his residence in Long Valley, N.J., where he spends his winter months, and the other showing the location of his residence at Pleasant Beach, along Muscle Ridge Channel, the approach from the south and west to Owl's Head and Penobscot Bay. He wrote to advise me that Dean and Mrs. Park, who go to the Isle of Springs summers, are intimate friends and neighbors in New Jersey. Dean Park is at New York University.

We have received from the Alumni Office notices of the deaths of three classmates: William H. Camp, V, Arthur F. Conant, I, and Benjamin Hammond, III. There is no date given for the death of William. He was connected with the Class in his first and third years. Our records show that he came from Louisville, Ky., and this is his last address which we have received. Arthur died on January 21, 1952. He came from Plainsfield, N.J., and lived in New Jersey until 1935 when he came to Cambridge, Mass., for a year and then moved to St. Johnsbury, Vt., where he remained until his death. Benjamin died on April 17. Our records show that he came from Butte, Mont., and prepared for the Institute at DeMeritte School, Boston. After completing his work at Technology, he returned to Butte and subsequently had intermittent addresses at Montreal, Syracuse, N.Y., and Birmingham, Ala. In 1925 he returned to Montreal and in 1942 took up his residence in St. Lambert, Quebec.

This is the last number of *The Review* until November. When you read this, we will have attended Alumni Day which will be reported in the November number. Moreover, a class ballot should be received by each of you, probably before this *Review* reaches you. We wish you all a most pleasant summer. — CHESTER L. DAWES, *Review Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: MAURICE R. SCHARFF, 366 Madison Avenue, New York 17, N.Y.; GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

It is with sincere regret that I have to report the death of John Francis McMorro on April 17, 1952.

Allen Gould writes as follows: "In the way of notes for *The Review*, there are very few classmates in or around Cleveland to report on. I had a fine visit with Cliff Hield last fall when in Minneapolis and highly recommend that city and Cliff's hospitality to any who can stop in there. Have been extremely busy ever since the defense program started, with not much letup yet. It is all very interesting work, though more closely connected with things metallurgical than the things they taught me in Course VI. I got in a short two weeks vacation in Florida in February and will probably have to stay

on the job until I head for Martha's Vineyard in August, so don't expect to get back to the Institute in June. The racing season started yesterday at our yacht club, and I am today a stiff old man as a result of two races in a 20-mile wind. Will be more hardened to it by the time the season ends in October."

Martin Tod was in Boston on May 3 and called at my office. It being Saturday, I was at home but had the pleasure of talking to him over the telephone. Carroll Shaw has sent me the following interesting letter: "Last summer Mrs. Shaw and I drove out to Laramie, Wyo., to visit our son, Alan B. Shaw, who teaches invertebrate paleontology at the University of Wyoming. He got his Ph.D. at Harvard, after an interruption as navigator in the Air Force. Upon our return to New York, I learned of the death of Arthur L. Stein¹⁰, with whom I had had frequent contacts for many years back, and in October I took over the business that he had been operating under the name of National Electric Service Corporation. I have just completed the consolidation of the two offices at 132 Nassau Street. We audit the utility bills for large corporations that have plants at several locations. Our largest customer is F. W. Woolworth Company which has over 1,960 stores in the United States and Canada. A year ago I had quite a siege with pneumonia and its associated viruses, but, having survived, have decided that life really gets going after 60. I have been busy with rate work for the Real Estate Braids Committees in both Boston and New York, and at present am retained by Westchester County in the Consolidated Edison Gas Rate Case. Our monthly luncheons of 1910 M.I.T. men in New York continue to be very interesting and I think inspiring."

A letter from Erford Potter recommends the 1910 luncheons in New York City. His letter gives the time of these luncheons: "We are still having our class luncheon in New York on the third Thursday of every month, and if you should ever be in town at that time, we would be delighted to have you with us. Outside of meeting the fellows at the luncheon, my only contact with my 1910 classmates has been with Carroll Shaw, who has been doing consulting work for some of my clients."

I evidently made an error in my last notes about Carl Lovejoy. His letter corrects my error: "I note you mentioned me in this month's *Technology Review*. One little correction: I have not sold my home in Rhode Island. In fact I do not know of a nicer place in which to live when I retire, if I were looking for one. I enjoy the work I am doing now. Not high pressure like the military construction program, and I am in no hurry to retire, even though eligible."

Jim Tripp is spending some months in Europe, especially Turkey, where he has charge of a hydroelectric development. I have received a letter from Myrton Turnbull, an excerpt of which follows: "We are linked rather closely to the textile trade, and you probably know what has happened to that business all over the country. The foreign trade has been quite

satisfactory up to now, but, possibly because of scarcity of 'Marshall' dollars, it has fallen off also."

It probably appears surprising to see that I have received so many letters from members of the Class. It may be explained by the fact that I am receiving returns for the 1910 Class Fund. Many other returns were received but no letter accompanied the check. For those who have not responded to the appeal from the 1910 Fund Committee, I wish to state that the committee is expecting to hear from you. — HERBERT S. CLEVERDON, *Secretary*, Cleverdon, Varney and Pike, 120 Tremont Street, Boston, Mass.

• 1911 •

Our top-ranking naval classmate, Rear Admiral Luis de Florez, II, U.S.N.R., wartime chief of naval training devices, who made his first flight 40 years ago and now pilots jet fighters, was honored on the anniversary date, May 14, by members of the Wings Club at a luncheon in the Biltmore, New York. Monk and his 1912 instructor, Clifford L. Webster²⁸, former test pilot and Marine Corps flyer, of Port Washington, Long Island, were guests at the club's 10th anniversary celebration, along with Lieutenant John Murray, a flight training officer at the Naval Air Station, Floyd Bennett Field, Brooklyn, who checked Monk out in a *McDonnell Phantom* there not long ago.

Mr. Webster and Admiral de Florez recalled, during luncheon, that the reason for the latter's decision to take flying lessons four decades ago was a desire to obtain firsthand information for the first thesis on aeronautics ever written at M.I.T. This thesis, entitled "The Thrust of Airplane Propellers in Flight," was submitted jointly by Monk and the late A. V. deForest, XIII, who later developed the "Magnaflux Test," widely used for discovering defects in metals, and who was founder and president of the Magnaflux Corporation. Monk went aloft first at Marblehead in a *Burgess-F* seaplane, built from a Wright Brothers design, and was so pleased with the data he collected that he immediately signed with Mr. Webster for the full flying course.

Congratulations to Paul Cushman, VI, who was initiated into Sigma Tau, national honorary engineering society, on May 1 at the University of Oklahoma. His wife, Otilie, thoughtfully enclosed in her letter a clipping from *The Daily Oklahoman* of April 26, with a fine candid shot of General George Kenney, I, who had told a press conference in Oklahoma City the preceding day that the signing of a Korean truce would not relax world tension because our troops must remain in Korea to maintain the peace. George was high in his praise of American fliers in the undeclared war.

Turning to domestic things, Kenney said he couldn't see why a general wouldn't make as good a president as anyone else, adding: "A successful general is likely to be a success in other things, but that doesn't mean a general would make a good president or a president would make a good general." George declined to comment on recent refusals to fly by a number of air reservists and an Air Force

report that not enough men are signing up for flight training, but he did say: "I think a man who retains a reserve commission as a flier should do it on a basis that he will serve in that capacity if he is recalled to service."

In his main talk before the Oklahoma Chapter of the Oklahoma Medical Research Foundation, Kenney, as President of the Arthritis and Rheumatism Foundation, said there are seven or eight million arthritis and rheumatism sufferers in the nation and this number is increasing by 500,000 each year. This, he added, means that 100 million man-days were lost last year because of the two diseases and more than \$1,500,000,000 in wages was lost. "I know something can be done for these people, for I've seen it," he said, pointing out that most persons hit by the crippling type of arthritis are 18 to 40 in the military and industrial age group. "It's one of the biggest military service rejection causes, and insurance companies pay out more for this disease than any other," he concluded.

With its facilities expanded, the aluminum industry can sell all the metal it can produce and perhaps more, I. W. Wilson, XIV, President of the Aluminum Company of America, told the New York Society of Security Analysts in New York on May 20. The industry, he said, will probably be "scratching for more production capacity" when the economy returns to normal, rather than worrying about what to do with the metal. However, in answer to a question after his address was over, Bun said he did not believe there was any need for additional expansion.

In reply to another question, he expressed his belief that the Wage Stabilization Board would recommend a wage increase for the industry just as it did for steel, adding that he was opposed to imports of Canadian metal on the ground that domestic markets did not get guarantees of customers and orders. In his address, Bun asserted that in less than two years the industry's capacity would approach an annual rate of three billion pounds, and "other things being equal, the market in normal times can absorb this production readily and may well need more." He said Alcoa was highly optimistic about the long-term trend for aluminum on the ground of a favorable price position, greater familiarity with aluminum, new and improved alloys and processes, and greater availability of the metal. As for the short-term supply situation, he said there was "an apparent easing" of the shortage that has prevailed for some months. He cited, as reasons, the stretch-out of the military program, maldistribution of aluminum as a result of inflexibility of allocations, and the additional capacity already in operation.

Bob Haslam, X, ostensibly in retirement, has been elected to the Board of Directors of the Dewey and Almy Chemical Company of Cambridge. Always prominent in the chemical industry, Bob recently retired as vice-president of the Standard Oil Company of New Jersey. Holding directorates in the Ethyl Corporation, W. R. Grace and Company, and the American Gas and Electric Company, Bob was also recently named one of 10

prominent Americans to serve as advisers to Secretary of the Army Frank Pace, Jr., and the Army chief of staff, General J. Lawton Collins.

Frank Osborn, III, writes from Potrerillos, Chile, South America, that he plans one of his too infrequent trips to the States in late May to attend the graduation of his youngest boy from Vineland, N.J., High School on June 9. Unfortunately, this is the same date as 1952 Alumni Day, so Frank can't fly up to M.I.T. to be with us at that happy event.

Letters continue to pour in expressing enthusiasm about an off-year get-together of 1911, say in June, 1953. From Framingham, Ye Sec's native town here in Massachusetts, Ina MacPherson writes that she and Roy, II, and the John Scovilles were the originators of this idea some time ago, and of course they are "all for it."—Hal Jenks, VI, New England Gas Association executive in Cambridge, writes: "Probably too late to have a get-together this year, but I think we should have one next, and possibly every year thereafter."

Royal Barton, VI, repeating what he had said at the "Dennie luncheon" in New York City in early January, writes: "Jessie and I had a grand time at Snow Inn last June and we shall try mightily to attend a similar informal event whenever held. At this time of life, it's to be expected that our numbers will decrease as the years pass, and if we have get-togethers in 'off years' probably more of us will be on deck than at the end of five years."—Jim Campbell, I, also writing from New York, said: "Toni and I have just spent a long week end at Edgartown on Martha's Vineyard and think it is the most attractive spot we have struck. Our host was Fred Chirgwin '23. We were there for a few days last year before our reunion at Snow Inn. Hope we can get together, all of us, soon again, not waiting until our 45th in 1956."—Syd Alling, with the Rochester, N.Y., Gas and Electric Corporation, writes: "Marion and I had a wonderful time at the reunion at Snow Inn last June, and I think you should count us among the ones who think it shouldn't be necessary to wait four years more for another class get-together." If any of us need a reminder that we are getting along in years, here's just a thought: Johnnie Bigelow, IV, city engineer at Marlboro, Mass., was the speaker at a meeting of the Ladies Circle of the Baptist Church there on May 7. His subject: "Old Marlborough."

One of the four vice-chairmen for this month's United Republican dinner for Worcester County here in the Bay State was Fred Daniels, VI, board chairman of Riley Stoker Corporation and chairman of the Worcester Metropolitan G.O.P. Finance District. Fred's name also appeared in the news on Sunday, May 18, when it was announced that the Worcester Natural History Museum would open a year-round program of nature study and outings for children of Worcester County on a two-acre forest at 214 Salisbury Street, in mid-June. The property, which was given to the museum society last October, has been named the Fred Harris Daniels Conservancy, in honor of

Fred's father, and it originally was the site of the Daniels homestead. A sign was erected two days earlier, dedicating it to the children of Worcester County. The area will serve as an auxiliary facility to the Fred Harold Daniels School of Forestry, Conservation, and Agriculture in Rutland, donated earlier by Fred.

At this mid-May writing, the last report we have (through April 30) shows that 1911 subscribers to this 1951-1952 Alumni Fund now number 91, subscribing an average of \$22.48, as compared with an over-all average of \$22.27 from 6,815 total subscribers. You'll find later figures in an article in the June issue of *The Review*.

We have just learned, to our deep sorrow of the passing of one of our most active and popular classmates—Marcus A. Grossmann, III, who died at West Penn Hospital, Pittsburgh, Pa., on May 21 after a long illness. This came in an official U. S. Steel Corporation communiqué, a copy of which was thoughtfully and promptly sent by Rufe Zimmerman, IX, U. S. Steel's Vice-president.

Fondly known by all of us at the Institute as "Aurora Borealis," because of his sparkling, smiling personality, Marc prepared at Rayen High School, Youngstown, Ohio—his native city. He was a member of our tug-of-war teams in both his freshman and sophomore years; he was in the Tech Show chorus for three years; was a member of the Technique Electoral Committee (2); clerk of the Class (3); and a member of the Class Day Committee (4).

For many years after graduation, he was with the Central Alloy Steel Corporation in Canton, Ohio, later joining the Republic Research Corporation in Massillon, Ohio, whence, in 1931, he commenced his service with U. S. Steel as a metallurgist at the Carnegie-Illinois South Works in Chicago; and in 1935 he was promoted to director of research of the Chicago district. A year previous to that, he had received a doctor of science degree and later he was named director of research for the company, with headquarters in Pittsburgh.

In 1950 he was named adviser, Research Planning, Research and Technology, of U. S. Steel, of which Carnegie-Illinois became a part in 1949. He received many honors for his work in heat treatment and was the author of many technical papers and books on the subject. He was 61 and is survived by a wife and one daughter.

As we bring to a close another volume of class notes, we have one address change to record: Ormond R. Bean, IV, 8100 Southwest 2nd Avenue, Portland, Ore. Here's hoping you all have a fine summer and don't forget from time to time to "write to Dennie!" That's the main way in which we are able to have newsy class notes.—ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Gardner, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass..

• 1912 •

Belatedly I am glad to announce the marriage of John Noyes' daughter, Pris-

cilla Ruth, to Charles J. Crosson on the sixth of last October in Dallas.

Your Secretary greatly enjoyed a short visit from Lester White last week, as he happened to be in town on business. After having retired two years ago, Les has now gone to work for the government and finds the work very interesting.

The April 19 issue of the *New Yorker* has a very interesting article on Public School No. 33, of which Eric Kebbon was the architect. The article gives great praise to Keb as a forward-looking designer of school buildings. They list one of the most charming features as the provision of glass paneled showcases in every corridor for exhibiting the children's paintings, sculptures, and craftwork. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER M. WHITE, *Assistant Secretary*, 4520 Lewiston Road, Niagara Falls, N.Y.

• 1913 •

Our 40th-year Reunion Committee is organized and at work. Members are Brewster, Cameron, Capen, Cohen, Zenas Crocker, Howie, MacKinnon, Mattson, Portal, Ready, Jim Russell, Sage, Charlie Thompson, and Professor Townsend. Chairman Bill Mattson, as you know, is a natural for this job. 1953 Alumni Day falls on Monday, June 15, 1953, and we will gather on the preceding Friday, Saturday, and Sunday, probably at Oyster Harbors Club on Cape Cod, some 75 miles drive from Providence and 85 miles from Boston. Bill Mattson has dug out these interesting statistics: average age in 1953, 63.5 years; number of pictures in senior portfolio, 365; 392 names, living, on present class list. Charles Lalor Burdick, III and V, and Gene Macdonald, I, have been nominated by the Alumni Association to the Corporation's departmental visiting committees.

The Naugatuck, Conn. *News*, printed the following on February 28: "John Parks Coe [X], Vice-president and general manager of Naugatuck Chemical Division of U.S. Rubber, has won this year's Commercial Chemical Development Association award for outstanding accomplishment in commercial chemical development, according to an announcement of the *Chemical and Engineering News* magazine. Mr. Coe's picture is on the front cover of the periodical. He will receive the award March 20 at the Statler Hotel, New York City, at the annual meeting of the chemists association. The article briefly describes the growth of Naugatuck Chemical into a \$50 million business: After his graduation from . . . Technology in 1913 as a chemical engineer, Mr. Coe took a job with the Indianapolis plant of U.S. Rubber. He was paid \$70 a month. He shifted, one year later, to the company's plant in New York, and during World War I, worked on improving a gas mask for the U.S. Navy. The work brought him to Naugatuck and Providence, R.I. In 1931, the award winner joined Naugatuck Chemical as factory manager of the plant in the borough. "The development and production of better chemicals for processing rubber was constantly expanded until today there is hardly a rubber product manufactured in

this country that does not contain some chemical produced at Naugatuck," the article said. In 1936 Mr. Coe had charge of many projects devised for creating synthetic rubber. In 1939, he was advanced to general manager. When in 1940 synthetic rubber came into prominence and World War II caused extensive need of it, U.S. Rubber set up a division to produce some and 'it was John P. Coe that was named to head the operation.' According to the article, Mr. Coe was born Dec. 15, 1899, in Rock Falls, Ill., and received his early schooling there and at Topeka, Kansas. He graduated from Washburn College in 1911 with an A.B. after attending the University of Kansas. Two years later he took a chemical engineering degree at M.I.T., graduating with a B.S. The CCDA winner lives on Amity road, Woodbridge."

From the Boston *Globe* of March 23: "The 39th annual meeting and dinner of Wentworth Institute Alumni Association, held in the school auditorium on Huntington Ave., was one of the largest attended events in the association's history . . . L. C. Hart, Vice president for Relationships of Johns Manville Corp., gave an inspiring talk on 'Human Relations in Business,' in which he pointed out the modern trends in better understanding between labor and management of mutual problems. Mr. Hart, who joined Johns Manville Corp. a year after his graduation from M.I.T. is a member of the Industrial Relations Committee of the National Association of Manufacturers and formerly served on the construction and civil development committee of the Chamber of Commerce of the United States. He is a member of the Engineers' Club of New York and appears in *Who's Who in America*."

Charlie Thompson, X: "As 1913 representative on the Alumni Council, I have attended the monthly meetings regularly. As of the present, I have two grandchildren — Joan (aged seven years) and Philip (aged one and one-half years) Crandall. Nature has treated me well and I enjoy good health. Am trying to retire gradually and let the younger members of the organization run things." Allen Brewer, III: "In the Jersey Shore vernacular, we are still 'clam diggers' at Avon-by-the-Sea. But after nine years of 50 miles commuting each way daily, this chore seems like just a stride. It's worth it eight months of the year, however, when the days are longer and the striped bass fishing gets good. As usual my wife beat me with a larger fish last season. Our other hobbies (besides working for Texaco) are stamp collecting and woodworking. This latter is giving us experience for building our retirement house on the Indian River Drive in Florida in a few years. So far we have been lucky, we both still have 10 fingers. Our three boys are scattered now. Allen, Jr., is a successful young artist in Lexington, Ky. Gordon is in competition with me, working as a sales engineer for Shell Oil in Erie, Pa. John is a senior agricultural student at the University of Kentucky. All are married and I'm a grandpappy three times. Lately my engineering society duties, as eastern vice-president of the American

Society of Lubrication Engineers, have been slightly competitive with my work for the Texas Company, but after 32 years with the company I guess they tolerate my endeavors to help in the establishment of a sound organization for the meeting of minds in the field of lubrication. Incidentally, I also have a anniversary this year, 30 years as Editor of *Lubrication*. Looks like nobody else was ever dumb enough to aspire to this job, or I was too dumb to warrant anything more responsible. But enough of this drivel."

Dr. Effie Norton, V, is not well, but I am counting on her spunk to be with us next year. She writes: "I hope to be able to attend the 40th reunion but I am not sure, because I haven't been able to work for over a year and a half; but I am better than I was. Diabetes and avitaminosis so I cannot walk without a cane. I have a son-in-law who is at the Institute as editorial assistant in the M.I.T. News Service — Walter L. Milne," Harold Rand, I; "Speaking of Arlo, the only story I can remember about him isn't fit to print or even write. So I'll skip it. As for the 40th reunion, I shall certainly plan to be there. And if the ladies are invited there will be two of us." Earl Lincoln, X, from Holberg, British Columbia: "Still am not thoroughly settled. I have a 'raunch' of 320 acres on Northern Vancouver Island. (Note: A raunch is something that you support; a ranch, one that supports you.) At present am employed on a defense construction project near home — new townsite and nearby large radar station on mountaintop six miles distant."

Scholarly Don VanDeusen, II (Director of Extension, National Association of Mutual Savings Banks, New York City): "Good old Arlo! I'm sure that if he were alive today he would be reminded of the fact that, in the days of the Old Testament, when an ass spoke it was considered a miracle." Ed Jewett, II: "Nothing of interest to others seems to happen to me. I work for the same company (American Sugar Refining, Boston) that hired me July 1, 1913. Have turned down company offers to work in their New York office and to represent them in a plant in Texas. I prefer New England to other sections of country and, after living in New York for five years, would not return if they gave me the place. Was glad to meet Eddie Hurst and wife on New York train recently. He did not know me but as far as I could see he has not changed since school days." Howard Currier, II: "Probably will not be able to attend the 1952 reunion, but certainly will start planning now for the 40th, as suggested in your note. My affairs should be in shape by June, 1953, so that I could make the trip, regardless of where I may be located at that time. By way of explaining this last statement, you will be surprised to hear that I am retiring as of January 1, and cannot decide yet whether to locate in Florida or in California as a permanent home. Our winter here in Detroit has been so rugged that I am anxious to get away from it as soon as it can be arranged."

Fred Kennedy, IV: "Now practicing architecture (in Pasadena) and special-

ize in schools and churches. Also, on the side, have a poultry farm with 8,000 layers. After all, an architect has to eat." Will Bill Mattson please note the last paragraph in this letter from Andy Vogel, IV: "This past year has been quiet. Have not been out of the country in 1951, the first year home since 1945. I was sorry to hear of the passing away of John Harty; Tom Byrne and Mrs. Harty wrote me at Christmastime. I am planning to attend the 40th reunion. Suggest a printed list of all 1913 members and their addresses be mailed to all members with the request that each member correspond with his close friends and urge them to attend reunion." Leon Parsons, V, has moved to 1317 F Street, N.W., Washington, D.C. — FREDERICK D. MURDOCK, *Secretary*, Murdock Webbing Company, Box 788, Pawtucket, R.I.

• 1914 •

As of the moment, George Whitwell holds the lead in our grandfather contest. If anybody can better George's record, please let your Secretary hear about it. George writes: "I have just finished reading the 1914 notes in the May, 1952, Technology Review. There seems to be some kind of a contest on as to which member of the Class has the most grandchildren. I do not know about having the most but I can top Paul Owen's figure of six, equally divided between grandsons and granddaughters. Mrs. Whitwell and I have eight, also equally divided. We have three children, two daughters and a son, all married and the grandchildren are divided among them—four, three, and one. Like Paul's, two of ours arrived very recently; in fact, during the last three months."

In visiting the Chicago office of the company with which your Secretary is associated, he noticed that the suite of offices directly across from those of his own company had been occupied by the Campbell Soup Company. This close association of the two companies brought back many fond memories of our beloved president, Buck Dorrance, and also of a somewhat similar coincidence which occurred in Boston a number of years ago. Your Secretary was visiting his son, who had just had an emergency operation at one of Boston's well-known hospitals. On stepping out of the room, he met Buck Dorrance, whose son had also had an emergency operation the same morning and was in the room directly opposite that of your Secretary's son. During the War, for some months these same two boys were together at Wright Field, Ohio.

As this is the last issue of The Technology Review until fall, Your Secretary wishes all members of the Class a very pleasant summer and hopes that all will be able to take a good vacation. Our participation in Alumni Day comes too late to be included in these notes, but a report of it will be in the first issue next fall. — H. B. RICHMOND, *Secretary*, General Radio Company, 275 Massachusetts Avenue, Cambridge 39, Mass. ROSS H. DICKSON, *Assistant Secretary*, 126 Morristown Road, Elizabeth, N. J.

• 1916 •

As you read this column, the 36th reunion of the Class will be history; but as we write it, it is still something of the future and we are still wondering, and will not know until the reunion gets under way, if the plan for annual reunions from this point on is the wish of the majority of the Class. Last year at the 35th, and in correspondence over the months since that time, many fellows wrote and expressed the thought that this would be a good idea.

We would like very much to have you fellows think about this idea of reunions for a while and then write us, giving us your thought on the subject—should we have one every year, every two years, or every five years as has been the custom; should we have it in September or some other month of the year; should we have it near M.I.T., as we have done these last two years by having it on the Cape, or should we have it in some other location. There may be other factors which should be considered; and if there are, include them in your letters.

We, as your Secretaries, recognize our responsibility to be that of keeping the Class together through the column in The Review and whatever help we can give in setting up reunions. So far, the column has been easy because you have come through so willingly with news for it. As to the reunions, we feel that they also can be easy, but only if we follow a pattern of activity which is in accordance with the wishes of the majority. We again request, therefore, that you give this matter some thought and then write us letting us know your views on the subject. This same letter will also give you an opportunity to send us a report on your latest activities.

One of our steady correspondents, Clint Carpenter, brings us up to date with this letter: "I am still in the construction business, as I have been continuously since getting out of the Navy after World War I, and our work has been primarily in the field of heavy engineering construction, including bridges, marine terminals, and other river and harbor structures, foundations, and industrial buildings. In the last few years we have diversified a little bit more and built a few housing projects, most of which we have sold, but one of which we have just finished and are retaining for rental occupancy. This is a 332-unit project and it is 100 per cent occupied. I still feel, however, that the housing side of our operation is more or less a side line and my principal interest is in the heavy construction. We have some fairly large work of this nature under way now for the Navy Department. I used to do quite a bit of sailing, and you may recall that four years ago I took a couple of months off and took a cruise from here to New York and Marblehead and on up to Bar Harbor. On my return, someone who had seen my boat, at New York wanted to buy her, so I sold her with the thought of possibly getting another one. Since that time, however, I have been so busy I just haven't gotten around to it. She was a 60-foot schooner and I had many good times aboard her, and, when I have time

to think about it, I miss sailing a great deal. My daughter, Sylvia, is now living in New York, and my son, Jerry, is in his second year at M.I.T. studying Civil Engineering. He expects to come into this business with me after graduation. He seems to be doing all right although I cannot say that he is finding it easy, and I don't suppose we have any reason to expect that he should. Incidentally, Ralph, Jerry knows your son but apparently they have not come into very close contact with each other for some reason. Jerry is in the Deke House. It seems to me that there is nothing like the close contact between all students of a class that existed when you and I were there, and from what little I have seen of the general student body, there seems to be a wider diversity in types of students than there used to be. It may be a good thing in some respects but it appears to have a tendency to prevent the building up of class or school spirit. It seems to me very regrettable, and, of course, I may not be entirely correct in this matter. In any event, I think we can all be very proud of the fact that the Class of 1916 stands out in so many ways, and its class spirit is certainly proven by the fact that our reunions have been so well attended."

This gives us an excellent introduction to a repeat report on one of the more current standout performances of our Class. The combined efforts of Steve Brophy and Bill Barrett, plus the welcome response of a good many members of the Class, have given us something to really brag about this year. In the past, our Alumni Fund record has not been outstanding, but right now 1916 stands third in amount of all classes. Our total of \$6,751 (Secretary's note: as of May 19, 1952) is exceeded only by two reunion classes, and is almost two and a half times as much as the previous Fund year. This is certainly a wonderful showing by our group but even this record can be improved and we have every reason to feel confident that the Class of 1916 will reach even greater heights in this Alumni Fund competition among classes. While on this subject, there are two points that we would like to mention. The first is the fact that contributions to our 50-year class fund can also be credited to the Class Alumni Fund. In other words, a \$1,000 contribution to the 50-year fund will also be counted as a gift to the annual Alumni Fund, provided the giver requests that it be done. It is important, therefore, that when you make a contribution to the 50-year class fund, you request that it also be counted as a gift to the annual Alumni Fund.

The second point is that the same Barney Gordon, who has pleased us so much with his singing at the reunions and has made our wives so happy by giving us nylons to bring home to them from the reunions, is making a great personal effort to persuade members of the Class to make contributions to the 50-year class fund. Let's make it easy for him by taking the initiative and getting our contributions to the 50-year class fund in right away.

Members of the Class are still traveling about. Your Secretary visited for a few days in Switzerland this past spring. Dave Patten recently took a 7,500-mile motor trip west down through Oklahoma, Texas, and Arizona, and east to Lake Huron, Canada, and back to Washington, D.C. Vannevar Bush planned to be in France at the time of the 36th reunion, and Ralph Mills expected to be in Utah or Colorado at that time on a little trip. John Fairfield writes: "Alive, well, busy. Only '16 men I have seen in the past year are Eberhardt on visit to Toronto and Ed Barry on trip to Atlantic City for a meeting of the American Society of Mechanical Engineers. In reference to the reunion, that is my busy season with commencement here and I will not be able to attend."

We recently read an article in the newspaper which stated, in part: "Thomas G. Jewett of Pleasant St., Marion, Mass. has had his nomination papers certified by the Registrars of Voters for the combined offices of Selectman, Member of Board of Public Welfare and Assessor in Marion." We wrote to Tom, wished him luck, and asked him to let us know how he came out. This letter from Tom came in the other day: "I found I had more friends than I thought but not enough to put me in as selectman. I am working for the Commonwealth of Massachusetts, Department of Public Works, District 7, as a resident engineer. As to the reunion, I will drop in on and off on my tour of duty. If you need help about traffic, stop signs, signals, and so on, call on me."

Here is what Frank Darlington had to say in his recent letter: "It is so discouraging to me to realize that my contemporaries have grown so old that a year ago I decided to withdraw as much as possible from the array of bald heads or white-thatched gaffers and closed my Pittsburgh office, moving the whole thing down to a spare room in my garage. Here I am whiling away the sunset of my life mailing out *Currentographs* and *Correcto-courses* (adv.) and otherwise attending to the Darlington interests. Of course Cape Cod sounds wonderful to me — always has since my first summer there in 1897; in fact, Mrs. D and I are going there next Monday to stay three weeks and have a pre-spring outing. Unfortunately the date you name conflicts with my 38th reunion at Princeton which I, in a weak moment, promised to attend and so I shall be in New Jersey at that time."

We received this letter from Francis Stern: "I picked up Jack Burbank this morning, and he drove downtown with me. He told me about the 36th reunion and I had hoped that when I found the notice on my desk after being away several days, there would be some chance of attending. This was predicated upon dates. However, I find it will be completely impossible, inasmuch as I have to be in Atlantic City for a very important meeting of an executive committee of the National Association of Electrical Distributors on the 7th, and general board meeting on the 8th. To get there from the ranch is an impossibility, so that even the one day of the 6th, tempting as it is, is

ruled out. I think this will be the very first gathering, since we got out of school, that I have failed to attend. I miss it only with great reluctance, and simply because the commitments which have already been made definitely preclude my coming."

Then, there is this letter from Dick Rowlett: "I'm afraid I am going to have to pass up Coonamessett this year, and believe me I hate the thought of doing it. I have just been totaling up and during the last month I have only spent about six days on the job. My father dropped dead in Florida the latter part of March and I was out of action for a week then. The following week I spent in Atlantic City. Last week I spent in Naples, Fla., fishing and this week I spent three days in Boston. I have got to get back in the habit of working for a living — which will be hard enough. If by any chance I weaken before June 6, I may show up at Falmouth, but I rather doubt it now. I hope you have a wonderful party and that it will be as rip-roaring as the one last year." We are very sorry to hear of your father's passing, Dick.

Frank Ross wrote that he would be in upper New York State at the time of the reunion to be on hand for his son's graduation from St. Lawrence University. Wes Blank wrote that he would probably be at the M.I.T. summer conference on Building in the Atomic Age on June 16 and 17, and couldn't make that and the reunion, so wouldn't be at the reunion. Paul Duff wrote that he couldn't be at the reunion because there were too many graduations in the family. Walt Binger wrote that he couldn't attend the reunion because he was going to be wrapped up in his son's marriage, his son's graduation from Harvard, and moving into another house, all in the beginning of June.

Changes in address received recently include Horace Hall, whose new address is 2917 Vaulx Lane, Nashville 4, Tenn.; Charles Davis, who is now living at 167 Massachusetts Avenue, Providence, R.I.; and Clarence W. Harvey, who has moved to 37 Bridge Street, Greenwich, Conn.

Again, we must conclude our column on a sad note by bringing you the news of the passing of Sumner Spaulding in early April. This information appeared in the newspaper along with the news of his death: "A designer of outstanding buildings and estates here for a quarter century, Mr. Spaulding is probably best known for his work as chairman of an American Institute of Architects committee planning Los Angeles' Civic Center. Earlier he was associated with J. C. Austin in designing Los Angeles International Airport. The William Wrigley Jr. Catalina Casino at Avalon was among his earliest works, and Westchester High School his latest." Your Secretary took the liberty of writing to Mrs. Spaulding expressing the sympathy of the Class.

This winds up the column for this season. The next issue of The Review will be out in November. Your Secretaries will take advantage of the opportunity offered by this interim to review the techniques used during the past months and to determine if there are any possibilities which we have overlooked which, if implemented, would make ours a better col-

umn. We would like to feel that during this period you fellows will consider your contributions to the column and determine if there is more that you can do to aid in the continuation of the healthy class spirit which now exists. We would be especially pleased to have a continuous stream of letters coming through the mail to us all through the summer, telling us the different viewpoints on reunions and bringing us up to date on the activities of the classmates. Best wishes to all of you for a very happy summer. — RALPH A. FLETCHER, *Secretary*, Post office Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, 463 West Street, New York, N.Y.

• 1917 •

The M.I.T. Club of Chicago enjoyed a double feature at its annual president's dinner the last of April. Sharing the spotlight with President Killian '26 was our prodigal son Penn Brooks, who was warmly welcomed back to the scene of his many exceptional accomplishments. Penn gave forth with his usual fine talk and acquainted an attentive audience of 250 with the progress, the structural form, and his aspirations anent the new School of Industrial Management which will be baptizing neophytes this fall. The Dean was accompanied by Mrs. Brooks, and daughter Carol and her husband were in the audience. We were certainly made aware of the fact that our 35th reunion was coming up when on the one hand Penn was telling that his son Bob, a recent benedict and a Marine, was on the high seas, Korea-bound, while Mrs. Brooks was telling all about the twin grandchildren, fairly recent arrivals.

In case anyone is wondering why our old faithful and ever-ready cheerleader Rad Stevens was not present at the 35th reunion, it was due to doctor's orders. Since last August, Rad has had four major operations and an additional hospitalization. Our horror story, with Rad playing the lead, includes a ruptured appendix, two return trips to the hospital for major repairs, then meeting himself coming out while on the way in for a real bout with that highly respected batter, Mr. Pneumococcus. Sometime later, while strutting along with his head in the clouds accepting the plaudits from his friends on his victory, he had his underpinning knocked from under him by a guy named Phlebitis, I believe. You will all be glad to read that Rad is now coming out of it all in good shape. However, his nerves are still shaky and the doctor insists on a minimum of activity for another few months. Rad contributes the item that classmate Howard Stewart has recently resigned as vice-president of the Economic Machine Company of Worcester, Mass.

Frank Peacock is now associated with Greeley (M.I.T. '06) and Hausen, the well-known firm of sanitary engineers. Frank is hale and hearty and enjoying life. His firm is doing work on the Delaware River and he occasionally makes Philadelphia. During one trip he had a dinner visit with A. K. Althouse. He confides that the latter thinks the coal industry is doomed. L. Howard Littlefield is

located in Chicago as Midwestern sales manager for the Leland Electric Company of Cleveland, Ohio. A broken wrist and the necessity for applying the whip to his sales force because of the current business slump precluded his making the reunion.

To accompany the horror story submitted before, we will now submit a mystery. For some years there has been a Philip Hunt'17 listed as living at 6223 South Kimbark Avenue, Chicago. The writer often wondered why he never appeared at any of the Chicago Club's activities, and over the years made a few unsuccessful attempts to contact him. Finally, while trying to round up prospects for the reunion, I was successful in getting the gentleman on the phone, only to be told that he was not the Philip Hunt in question and had never been near M.I.T. Our report issued after the 30th reunion carries the above address and nothing else. Hence, if anyone knows anything of Phil Hunt, originally from Salem, Mass. (or Peabody), please forward the information to the Class Secretary.

Desiring to contribute news that would not be stale after the reunion (the deadline for these July notes is before June 1), the writer broadcast a half-dozen or more letters to all points of the compass, addressed to class members who were not expected to appear at Wentworth-by-the-Sea. Much to my chagrin and mortification, nary an answer was received at this writing save one; but what a one, a gem of the purest water. It was from the Admiral, William Aloysius Sullivan, himself, and without further ado I submit it verbatim:

"I was so happy to receive your letter. I regret that I will not be home for the reunion. I am sorry that I will miss seeing so many old friends. Enos Curtin has written me about McGrady's death and my wife and I were shocked. I am very busy in Japan. This country needs technical services badly and as the Far East representative of the Foster Wheeler Corporation we have a tremendous amount of work in connection with chemical plants, power stations, and oil refineries. We also have engineering work connected with road construction, housing, and industrial projects.

"Unfortunately the financial situation here is such that dollars have not been available to start much of the needed work. However, last December I was home and obtained preliminary approval of a loan sufficient to undertake the work necessary to complete a urea manufacturing plant with a capacity of nearly 100,000 tons per year. We are now completing the preparation of the data needed by the bank to finalize this loan. At least 10 other chemical companies in Japan want to build similar plants and the only obstacle is money for construction. I am convinced that the best method of fighting communism in the Orient is to bring down the price of staple foods. Rice is the principal food in the Orient; the rice lands everywhere have been overcultivated and need replenishment of nitrogen. Heretofore, ammonium sulphate had been the principal chemical used for this purpose. However, due to the world shortage of sulphur the ammonium sulphate

available for Japanese agriculture is less than two-thirds of minimum requirements. In other Oriental countries the supply is even more limited than in Japan. Urea is the only solution. It can be made entirely from domestic materials, and for slightly more than half the present market price. The total Japanese production at the present time is only about 1 per cent of the amount needed for domestic use.

"To encourage construction of urea manufacturing facilities, we have obtained from the Japanese Government an agreement to permit the export of 50 per cent of the production of any factory constructed to any appreciable degree with American capital. The Japanese chemical companies are willing to offer to American capital a high rate of interest and to pay off the principal and interest with urea valued at the cost of the production. Under this plan, anyone financing the construction of one of these plants can expect a return of about 100 per cent on his investment over a five-year period. Legislation is now in the Diet which will permit a government bank to guarantee such an arrangement.

"Life in general is not as interesting in the Orient as it was in prewar days. Prices are high and to live by American standards one spends as much as he would in any place in the United States. Rents are especially exorbitant. This is largely due to high interest rates. The banks can charge 10 per cent interest but black market rates are as high as 10 per cent a month. Few mortgages are held by banks. Some banks will take mortgages only for three months and will require a high premium for renewal. As a result, it is quite possible to buy property here at a price equal to about two years' rent.

"We have recently moved into a new house which was offered for rent at \$250 a month and which I bought for \$5,500. It has about 2,000 square feet of floor space which includes a garage and servant quarters. It is very comfortable except during the winter months when it is impossible to keep it warm because of its flimsy construction. By next year I hope to find or build a more substantial place. Right now my chief problem is office space, for the space we now have is unsatisfactory and we are paying more rent than we would for any similar space in any downtown New York section. We hope it will be possible this summer to build our own place.

"Give my best to the gang and advise Rad Stevens that he will have to get a new playmate to play saloon this year. My best to all." For anyone desiring to correspond with Bill, his address is: Sullivan Engineering Company, Inc., Masonic Building, Shiba, Sakae-Cho, Minato-ku, Tokyo.

To those other classmates who to date have not answered my plea for news, a fie and a pox on you. With charity I will withhold your names. You may still square yourselves with me by answering my letters and I will forward them to our esteemed Secretary as a contribution to the notes for the first issue next fall. With best wishes to all. — SHERRY O'BRIEN, *Special Correspondent*, 1200 Lake Shore Drive, Chicago 10, Ill. RAYMOND STE-

VENS, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass. FREDERICK BERNHARD, *Assistant Secretary*, 24 Federal Street, Boston 10, Mass.

• 1918 •

One of the lighthouses in the Class which cannot be hidden is Bill Foster, now Deputy Secretary of Defense. That's an important position in any government. Sax Fletcher reports on a speech Bill made last February for the M.I.T. Club of New York. It was a bang-up affair, with some 450 enthusiastic Alumni and their wives attending. The two 1918 tables were appropriately just in front of the speaker's table with the following in attendance: Mr. and Mrs. Phil Dinkins, Mr. and Mrs. Julian Avery, Mr. and Mrs. Clarence Fuller, Mr. and Mrs. Lawrence Flett, Mr. and Mrs. Harold E. Collins, Mr. and Mrs. Charles H. Tavener, Mr. and Mrs. Alan B. Sanger, Gretchen A. Palmer, T. V. Brosnahan, P. S. Shelton, Clarence D. Hanscom, Sidney J. Judson, and Mr. and Mrs. S. W. Fletcher. Commenting on Bill's remarks, Sax says they were "factual and well censored," whatever that alluring combination of words may mean. In any event, we all know Bill Foster is no creature of pure poetry, but one of the ablest executives in the country.

"The truth," says Bill, "is that the Pentagon, in many respects, is run as well or even better than many large companies. I have on my desk a list of recent charges against the Pentagon which, upon investigation, have turned out to be distortions, half-truths and sometimes complete canards." Stories which rile him most, he said, include the one about the 10 million dozen oyster forks that Vice-Admiral Charles W. Fox, chief of Navy matériel, is supposed to have bought. The Navy bought only 10,000 dozen and that was 10 years ago, when Admiral Fox was at sea aboard the aircraft carrier *Enterprise*. Yet today, Foster said, the admiral's friends call him Oyster Fork Fox. Next, there's the story about the toenail clippers for dogs. That sounds as if people in the Pentagon "sit around manicuring glamorous canines." Those clippers were used during World War II, when dogs saved many lives. The story that the Pentagon bought one million WAVE uniforms for 10,000 girls, he said, "is an example of a complete canard." "If unfounded charges are circulated and believed, we must calculate the ultimate effect not only on the people at home, but also upon the soldiers at the front," Bill said. Obviously a stimulating time was had by all.

At the dinner another kind of light was shed around the 1918 table, for the conversation revealed that by chance three of the couples present were to defy the vastness of the Atlantic Ocean with a compass needle and go to Europe. Mr. and Mrs. Dinkins and Mr. and Mrs. Avery left early in April. Mr. and Mrs. Fletcher left on April 24. Naturally they made plans to get together. Where? We do not know, but if they are wise it would be Paris in the spring. Meanwhile Bill Wills threw the beam of his lighthouse at a luncheon on May 14 at the Boston City Club for '18 men in and around Boston. Object: sociability and the stimulation of interest in

Alumni Day this year, as well as class reunion next year.

Final light for these class notes comes from Yale Evelev, who says: "I feel pretty well. In fact I am looking forward to seeing you all at Weekapaug Inn in 1953. We spent the entire winter in Hollywood, Fla., and just returned from a glorious trip home. The country looks different when one is seeing it from the eyes of a retired individual with plenty of time to enjoy the country-side and with a little energy left yet to participate in some of the recreational and intellectual activities available in the various stopping-off points. I see by the notes that Magoun has acquired an illustrious partner in his present side line. The name of Vannevar Bush '16 should insure success in any undertaking—even the turkeys should realize with whom they are dealing." All of which reminds me that Alexander was in Washington in May at the request of the Federal Security Agency. The assignment had something to do with improving co-operation between departments.—GRETCHEN A. PALMER, *Secretary*, The Thomas School, The Wilson Road, Rowayton, Conn.

• 1919 •

We extend our deep sympathy to the family of our classmate, Professor Joseph S. Newell, who passed away on May 5. He was professor of aeronautical structural engineering at M.I.T. and was secretary of the faculty and executive officer of the Department of Aeronautical Engineering since 1946. He was a nationally recognized expert in airplane structural design and had originated standard methods of stress analysis used by the aircraft industry during World War II. Professor Newell was made a Fellow of the Institute of Aeronautical Sciences in 1937. He served on several committees of the National Advisory Committee for Aeronautics and acted as consultant to the Bureau of Air Commerce, United States Department of Commerce, as well as to several leading aircraft companies. He was a member of Sigma Xi, honorary scientific fraternity and, for many years, was a member of the Engineers Club of Dayton.

Our condolences are also extended to the family of Hyman P. Selya who passed away on March 28. He was a partner in the Sagamore Color and Chemical Company of Boston and active in technical associations in the dyes and chemists field. As a color chemist, he helped develop Army uniform and camouflage dyes in World War II. He also served as a consultant to the Quartermaster Corps for the war in Korea. Besides Mrs. Selya, he leaves a son, Paul, a senior at Bowdoin College, and a daughter, June, a junior at the University of New Hampshire.

John Stevens writes from Wausau, Wis., that there are very few of our classmates in that neck of the woods. He had very little to report since his last contribution to *The Review*, as very little had happened. He sees Bob MacMullin occasionally, who is the master mind for a chlorine plant being built. His final comment was that he hates to think about that 35-year reunion stuff.

James G. Strobridge stopped in the office to see your Secretary recently and we had a nice little chat. He said he planned to attend the M.I.T. dinner on Tuesday, May 13. He added that he was still at the "old stand" at 250 Park Avenue—Strobridge Lithographing Company—and has been doing a lot of commuting to and from Cincinnati.

Since last writing, Stan Weymouth informed me that Mrs. Weymouth had passed away. We extend our belated sympathy to Stan and his family. His only daughter is now attending Colby College. Stan also writes that he is now completing his 33d year with the Maine State Highway Commission. Some record! In closing, he added: "Always manage to attend the annual alumni reunion." Received a note recently from Alex Wiren who writes: "Something most peculiar is happening about my little booklets. The Mental Hygiene Association is interested in them and the National Federation of Business and Professional Women is sending copies to all their branches." Congratulations, Alex, you certainly deserve all this glamour on your wonderful booklets.

Congratulations to Kenneth A. Wright who has been elected a vice-president and made manager of the Central District of Johnson Service Company, which appointment became effective as of April 1. His headquarters will be in Chicago where he will head one of the three major administrative divisions in the Johnson field organization. He will be responsible for some 30 direct branch offices in the area, extending from Pittsburgh to Omaha and south to the Gulf of Mexico. Prior to his transfer, he was manager of Johnson's Cincinnati branch for more than 30 years. While there, he developed the Johnson branch office system in cities in southern Ohio, Kentucky, Tennessee, Georgia, Alabama, and Florida. He is widely known in the heating and air-conditioning industry throughout those areas.—EUGENE R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

• 1920 •

These notes are written too early in May to provide information about Alumni Day and the extent of our participation. They are also probably too early to get any reaction to the appeal of President Abbott in his class letter of May 13th to those of the Class with a conscience to get in touch with their poor forgotten Secretary once in awhile.

As mentioned before in these notes, it should be a great satisfaction to all of us that our Class will be so nobly represented on the Alumni Association with incoming President Ryer and outgoing President Glassett, and on the Corporation with these two distinguished classmates and Pete Lavedan. John Barker, Assistant Director of the Maine General Hospital, has been elected a member of the American College of Hospital Administrators. Professor John Hale's new address is 4105 Oliver Street, Chevy Chase, Md. Bob Rowe has left Chicago and is now in New York City, address 71 Washington Square South.

Between now and fall when the next issue of *The Review* comes out, I hope you will find time to provide me with a bit of information about your doings or those of your children or grandchildren.—HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

Homer N. Wallin, a rear admiral and head of the Navy's Bureau of Ships, has been nominated by the Alumni Association as an Alumni Term Member of the Visiting Committee on the Department of Naval Architecture and Marine Engineering. Admiral Wallin distinguished himself by rapid salvage of units of the Pacific Fleet after Pearl Harbor. He holds the Distinguished Service Medal, the Legion of Merit and the Commendation Ribbon. H. Chester Nelson, Vice-principal of Windham High School since 1927, has been made principal of the Connecticut school. A graduate of Bowdoin, he took graduate studies in Chemistry with us and was associated with Good-year Tire and Rubber Company before going to Windham as a science and mathematics teacher. He obtained a master's degree in education at Columbia. William R. Ferguson, for many years a resident of East Orange, N.J., has moved to 304 East 20th Street, New York City. Bill is general superintendent of construction for the Doral Construction Company of Rego Park, Long Island. New addresses have also been received for L. George Horowitz of New York and Admiral Grover C. Klein of Washington, D.C.

Daniel P. Barnard, 4th, National President of the Society of Automotive Engineers, is quoted in the *Wall Street Journal*, following an address to the Wichita chapter, as denying that the United States has only a 12-year reserve of crude oil. Herbert C. DeStaeblcr, Vice-president of the Lambert Pharmacal Company, St. Louis, has announced the marriage of his daughter, Jeanne, to Pfc. Thomas T. Taylor, 3d, at Kirkwood, Mo., on April 18. Jeanne attended Sullins and the Chicago Academy of Fine Arts. Robert E. Waterman was re-elected a vice president and director of the Schering Corporation, Bloomfield, N.J., pharmaceutical manufacturer. Charles H. Herty, Jr., is assistant to the vice-president in charge of metallurgical administration of the Bethlehem Steel Company, Bethlehem, Pa. A president, Campbell lecturer, and winner of the Sauveur Achievement Award of the American Society for Metals; a director, Hunt medalist, and Howe lecturer of the American Institute of Mining and Metallurgical Engineers; he is also a member of the American Iron and Steel Institute, American Ordnance Association, British Iron and Steel Institute, American Chemical Society, Engineers Club of the Lehigh Valley, National Academy of Science, and the Newcomen Society, and is the author of almost 100 technical papers. He and Mrs. Herty have four children.

Sanford J. Hill is a member of the legal department of E. I. du Pont de Nemours and Company, Wilmington, Del., where he has been located since 1922. A mem-

ber of the American Chemical Society, he and Mrs. Hill have a daughter, Margaret, who was graduated from high school last year. Nellie Jefferson is director of dormitories of the University of Vermont, Burlington. Well known for her oil paintings and early American decoration, she is a member of the American Association of University Women, Society of Vermont Craftsmen, and vice-president of the National Executive Housekeepers Association. Andrew Jensen, Jr., Worcester, Mass., is chief engineer of his own firm of consultants. Daughter Jean, a Simmons graduate, has two children; Andrew was graduated from Harvard in 1949. Dana E. Kepner is head of the Dana E. Kepner Company, 1921 Blake Street, Denver 2, Colo., suppliers of waterworks and sewage equipment. Dana is active in the American Society of Civil Engineers, American Water Works Association, Colorado Society of Engineers, Colorado Engineering Council, Masonry, and the State Republican Party. He and Mrs. Kepner have a daughter, Barbara, who was graduated from Cole College, and a son, Harrison, University of Colorado.

Robert F. Miller, industrial engineer on depot operations of the U.S. Signal Corps, Washington, D.C., has sent a complete set of colored slides of our 30th reunion to be added to the outstanding collection which he has made of films and slides of the Class, going back to our class picture in 1921. Bob has also written a detailed account of his trip with Mrs. Miller and Helier and Graciela Rodriguez, to the home of the latter in Havana and recommends the itinerary for a delightful vacation trip. From New York, the group traversed New Jersey, detouring to inspect a large Signal Corps installation in the Poconos and spending the night at a spot overlooking the Delaware Water Gap. Next, through the Pennsylvania Dutch country onto the turnpike to Carlisle, across Maryland, West Virginia to the Shenandoah National Park and the Skyline Drive, with a side trip to Luray Caverns and Jefferson's home in Monticello. Across the Carolinas and Georgia, the next stop was Ocala, Fla., with sight-seeing in the glass-bottomed boats at Silver Springs, the Bok Singing Tower, Lake Okeechobee, and then Miami for the trip to Havana to be described in a later issue.

Since copy for this issue must be completed before Alumni Day, details of our annual party will be in the November Review. Saul M. Silverstein missed the affair for the first time in many years, because of his being in Belgium with Mrs. Silverstein as the financial specialist of a five-man team of the National Management Council conducting seminar sessions under the Mutual Security Agency to increase productivity and bolster Europe against communism. Sumner Hayward writes that he attended a May dinner meeting of the Men's Club in his home town of Ridgewood, N.J., which was addressed by John W. Barriger, President of the Chicago, Indianapolis and Louisville Railroad, who spoke on "Vitamins for Iron Horses." Ivan C. Lawrence, Vice-president in charge of Personnel Administration, Minnesota Mining and Manufacturing

Company, St. Paul, is president, and a director of the St. Paul Committee on Industrial Relations, a past president of the Twin City chapter of the Society for Advancement of Management and active in local M.I.T. affairs. He and Mrs. Lawrence have two married daughters, a third daughter attending Carleton College, and a grandson. Ivan says he often sees Winter Dean.

Richard Lee is a rolling mill inspector at the South San Francisco plant of the Bethlehem Pacific Coast Steel Corporation. Dick sent regards to his old roommate, Ed Steffian. The Lees' three children, Sally, Preston, and Isabel, all have the same alma mater, the City College of San Francisco. Dick also says he has seen Jack Shaw of Pasadena. James. LeGrand is senior structural engineer with Giffels and Vallet, Inc., Detroit, Mich. He is married and has no children. Donald B. Lovis is general directory manager for the New England Telephone and Telegraph Company, Boston, and a devotee of amateur radio in his spare time. He and Mrs. Lovis have two sons.

Frederick Samuel Dellenbaugh, Jr., a colonel, former instructor in the Institute's Department of Electrical Engineering, and member of the staff of the Division of Industrial Cooperation, who received his master's degree with us, died at Norwalk Hospital, Connecticut, on April 17 at the age of 64. Most recently director of the U. S. Army Arsenal at Redstone, Ala., he had retired six months ago to make his home at Hampton Inn, New Canaan, Conn. He received his doctorate from Technology in 1926. He had served in World War I and in the Mexican border campaign. During the second World War, he had charge of a development section at Fort Monmouth Signal Laboratories and later was director of the Signal Corps Laboratory in Detroit. He was decorated with the Legion of Merit. A former director of Leland Electric Company and executive of the Reeves Laboratories, he was a member of the New York Century Club. He is survived by his parents, Mr. and Mrs. Frederick S. Dellenbaugh of Litchfield, Conn., and by two sons, Warren and Frederick S., 3d, to whom we express sincerest sympathy on behalf of the Class.

Best wishes for a pleasant summer. Don't fail to answer Ed Farand's call for contributions to this year's Alumni Fund, which started July 1, and insure receipt of The Review throughout the coming season. — CAROLE A. CLARKE, *Secretary*, International Standard Trading Corporation, 67 Broad Street, New York 4, N.Y.

• 1922 •

Crawford Greenewalt, President of Du Pont, continues to make news. As one of the ablest exponents of enlightened capitalism, his views appear often in the press. A long article recounting an interview with Greenewalt appeared in the New York *Herald Tribune* in March. In this interview he analyzed the present anti-trust case now being brought by the government against the members of the Du Pont family.

Thomas H. West, 3d, President of Draper Corporation in Hopedale, Mass.,

was elected, last March, a director of the Brown and Sharpe Manufacturing Company. West has been president of Draper Corporation since 1945 and is currently a director of the Pepperell Manufacturing Company of Boston and vice-president of the Machinery and Allied Products Institute.

Bertram A. Weber, Chicago architect, is a contributor to the magazine *American Home*. His architectural philosophy, as stated in his articles, is: "Efficiency must be coupled with beauty and charm to attain good residential architecture." Ronald G. Macdonald was awarded an honorary degree of doctor of science by Western Michigan College, Kalamazoo, Mich., at its midwinter commencement last January. Macdonald, the principal speaker at the graduation exercises, is editor of the magazine *Tappi*, the paper industry publication.

William C. Gilman, a partner in W. C. Gilman and Company of New York City, was named, last January, chairman of the executive committee of Florida Power Corporation, following service as president of that company. Gilman returns to active work in his New York partnership, consulting utility engineers. George R. Prout, General Electric Vice-president, has been manager of the Hanford plant of the Atomic Energy Commission since 1948. Horace W. McCurdy is now a member of the Corporation's Visiting Committee on the Department of Mechanical Engineering. Harold R. Boyer is reported to have resigned as chairman of the Aircraft Production Board and has returned to General Motors to head a manufacturing division.

Your Secretary was married on May 2 to Mrs. Ruth Gardner Whiting and has now resumed the role of a Boston commuter to and from Cohasset where he is living at 25 North Main Street. In the hope of inducing the output of more news from our classmates about themselves and their families, your Secretary sets the example by reporting that his older son, C. Y., Jr., has been commissioned a naval aviator at Pensacola and is now starting in on jets in Texas. His younger son, John M., is a P.F.C. in the Marine Corps, currently at Camp Lejeune. He must be a good shot because he is on the camp rifle team.

We are sorry to report another death. Douglas C. Stewart of Buffalo died April 5 after a short illness at the age of 54. Stewart, at the time of his death, was safety supervisor for Niagara Mohawk Power Corporation, with which company and its predecessor he had been ever since he graduated in 1922. He was a member of the American Institute of Electrical Engineers; a member and secretary of the Public Utilities Section of the National Safety Council; he had been chairman and a member of the accident prevention committee of Edison Electric Institute; and, in addition, he was the American Gas Associates representative to the American Standards Association and chairman of the Statistics Subcommittee of the A.G.A. He is survived by his wife and brother, and on behalf of the entire class, we wish to extend our sincerest sympathy.

New Addresses: Vice-Admiral Willard A. Kitts 3d, General Electric Company, Aircraft Federal and Marine Division, Schenectady, N.Y.; Edward J. O'Connor, Post Office Box 536, Manchester, N.H.; Frank O. Rickers, 3046 Alpine Terrace, Cincinnati, Ohio; E. Russel Baldridge, Room 382, Skyway Lodge, Fairborn, Ohio; Colonel Robert S. Barr, 3001 8th Avenue, Pueblo, Colo.; George W. Heathman, 50 Ivanhoe Avenue, Dayton, Ohio; Lachlan Mackenzie, Portland Towers, Portland, Ore.; Edward A. S. Morse, Walnut Valley Acres, Box 195C, Route 3, Charleston, W.Va.; James D. Sarros, 100 Northfield Road, West Orange, N.J. — C. YARDLEY CHITTICK, *Secretary*, 41 Tremont Street, Boston 8, Mass. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo 3, N.Y.

• 1923 •

These notes will appear after the class meeting held on Alumni Day in June but they have to be written in May, so I have no account as yet of that meeting. The first mailing about the 30th reunion has had a good response and I have already heard from quite a number of the members of the Class. Frosty Harmon, who is president of Tubesales in Los Angeles, sets the tone of the response. He says he has missed every reunion so far but he definitely is going to make this one if it is at all possible.

Harry Perlstein, lawyer at Vineyard Haven, Mass., reports that his son Gerald is a sophomore at M.I.T. — Erwin G. Schoeffel, works manager, Reduction Division, Aluminum Company of America, says both his children are at college; his son, David E., is at M.I.T. Herb Hayden, works engineer of the Du Pont plant at Arlington, N.J., says that in April his youngest daughter, Marjorie, a graduate of Middlebury College, was on a vacation trip to Europe and is scheduled to marry a Yale graduate, Ed Atkins, on May 31.

Walter T. Rolfe reports that he is a partner of the firm of Coleman and Rolfe, architects at Houston and Beaumont, Texas. He is active in professional matters, being a Fellow of the American Institute of Architects and the Royal Society of Arts. He is a member of the A.I.A. Survey Commission and vice-president and trustee of the American Architectural Foundation. F. T. Entwistle was last reported in these notes as returning from several years in Buenos Aires, Argentina. He is now assistant planning manager of the Textile Fibers Department of Du Pont at Wilmington.

The rest of the notes are from clippings. George W. Bricker, Jr., has been elected vice-president in charge of organization planning of the Celanese Corporation of America. I mentioned in last month's notes that he had joined that company. William S. Wise, on April 18, was named director of the Connecticut State Water Commission. He has been chief engineer of the commission since 1942. In his new position, he also will serve as chairman of the State Board of Supervision of Dams and as a member of the State Flood Control and Water Pol-

icy Commission, the State Soil Conservation Advisory Committee, the Interstate Sanitation Commission, and the New England Interstate Water Pollution Control Commission. Wise and his wife live in West Hartford.

William P. Allis with Melvin A. Herlin '48, both of the Department of Physics at M.I.T., have coauthored a book entitled *Thermodynamics and Statistical Mechanics*, published this year by the McGraw-Hill Book Company, Inc. It is described as a text for the first-year graduate course. Donald W. Height, who has been assistant treasurer and business manager of Wellesley College since 1938, was made comptroller on April 3. — Herman A. Bruson, described as one of the day's top polymer chemists, has been appointed manager of the organic research department of Olin Industries, Inc., at New Haven, according to an announcement in April. Dr. Bruson came to Olin Industries from the Industrial Rayon Corporation. Previously he was a research chemist with Rohm and Haas Company and with Goodyear Tire and Rubber Company. Dr. Bruson is making his home in Hamden, Conn.

Business Week for March 22, 1952, has a picture of Joseph S. Sherer, Jr., on the cover and a story about his helping Reo Motors, Inc., back to a prosperous position through the sale of power lawn mowers and, we gather, through good management and smart merchandising in other ways. Sherer's background apparently has been put to good use in this operation. Before 1943 he had been with the Oakland Motor Car Company and Gemmer Manufacturing Company and an executive of the Ideal Power Lawn Mower Company. He came to Reo in 1943 as vice-president and general manager. — HORATIO L. BOND, *Secretary*, National Fire Protection Association, 60 Battery March Street, Boston 10, Mass. HOWARD F. RUSSELL, *Assistant Secretary*, Improved Risk Mutuals, South Broadway, White Plains, N.Y.

• 1924 •

Maybe you think you're getting old, but did you think you'd reached the point where a classmate would be called "Dean of Engineers"? The Los Angeles *Times*, reporting on the big Alumni Regional Conference there in January, quoted Thomas K. Sherwood at some length, shortened his "Dean of Engineering" title a bit to give it a radically different slant. Incidentally, Tom gave up his deanship July 1 to allow himself time for the teaching and research work that he has had to forego in recent years. You have probably heard Edward R. Morrow's "This I Believe" program. Among his recent guests, a '24 man, Hudson Hoagland, Executive Director, Worcester Foundation for Experimental Biology. One of Jimmie Doolittle's honors you probably haven't heard about: In Baltimore there is a street named for him, Doolittle Road.

Elbert C. Brown has been drafted. When the Electric Power Administration (a Department of the Interior outfit) wanted a good man, they sent up to Hartford, pulled Bump out of his job as

assistant to the president, Hartford Electric Light Company, and spirited him away to Washington. He's now listed as a consultant in connection with present emergency problems of power capacity expansion. And William H. Correale has also left private industry. Since the War, Bill has been resident engineer for Moran, Proctor, Freeman and Mueser. Recently the New York City Board of Education shuffled the deck to "stream line its school construction program," appointed a new chief engineer. That's our Bill. Among recent promotions of major importance is that of Howard E. Whitaker. With the Mead Corporation in Chillicothe, Ohio, for many years, he has held all sorts of positions from pulp mill superintendent and paper mill superintendent on up until, in 1947, he was made vice-president in charge of operations. From now on you may address Howard as President Whitaker. The name of another of our presidents appeared in a recent Atomic Energy Commission release on the development of nuclear reactors for production of fissionable materials and power. It told of "preliminary studies as part of the industrial participation plan first recommended by Dr. Charles A. Thomas of Monsanto Chemical Co." Four teams are at work, of which Monsanto and Union Electric of St. Louis are one. All have submitted interim reports which "show a cautious optimism." One more promotion, before we leave this interesting subject: Occupying a desk in the Bureau of Ships in Washington is Rear Admiral Ralph E. McShane, until recently a captain.

Bill MacCallum, on one of his regular transcontinental tours, stopped off in Chicago for a meeting of the M.I.T. Club. He saw three '24 men there: Dick Lassiter, a newcomer to the area, had moved to Chicago only a couple of months before. Bill didn't say whether he was still in the sand and gravel business or not. And Frank O'Neil was on deck with Mrs. O'Neil. Frank spreads his sons around rather well. One of them, Frank, Jr., graduated from M.I.T. this June; the other, William, is on the West Coast at Pomona, but since he's in the M.I.T. cooperative program he should be east soon. The dinner was held as usual at the Bismarck Hotel, and that's where the third classmate comes in. It's Otto Eitel, one of our three hotelkeepers. Otto is managing director of the Bismarck. He was introduced and thanked, according to Bill, "for making the fine dinner available at favorable terms." Just to satisfy your curiosity and so you won't have to thumb through our book looking up the other two, they're Stu Lankton and Bill McCartney. You undoubtedly know that each of the Institute's departments has a Visiting Committee, mostly Alumni, appointed because of their knowledge of the department's field and problems. They are remarkably helpful. Two '24 men have been nominated for Alumni Term Members this year: James H. Doolittle for Aeronautical Engineering; Andrew P. Kellogg for English. Nice to know that Andy's Schenectady *Union Star* is considered a prime example of proper English.

Sorry to have to report another death.

On May 2, Frank W. Hallam passed away in Framingham, Mass. Frank was a safety engineer for the Continental Casualty Company. He was not married.

This brings to a close another year, our 28th since graduation. Before you know it we'll be assembling again for another reunion. Few people today have the temerity to plan anything two years in advance, but some of us at least might start thinking about it. Keep the date in mind, and, in the meantime, a good summer to all of you. — HENRY B. KANE, *General Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

Much of our news for the final class report of this alumni year is congratulatory, in view of the fact that a number of our classmates have received promotions during the past few weeks. Garvin A. Drew, XV, has been appointed assistant vice-president of Scovill Manufacturing Company, Inc., in charge of the Schrader's division. He will continue as general sales manager of Schrader's where he also serves on the executive committee and the board of managers. Chink joined the Schrader's organization shortly after graduating in 1925. Following initial work in the manufacturing department at the plant in Brooklyn, he became a salesman in Detroit and various posts throughout the country until he was appointed Pacific Coast manager in 1935. After serving in the latter capacity for nearly five years, he was recalled to Brooklyn as general sales manager in 1939.

Anthony A. Lauria, II, has been named to an executive position in the general merchandise office of Sears, Roebuck and Company. Toni will be national merchandiser of hard lines, including sporting goods, hardware, auto accessories, and tires. He is retaining his present assignment as supervisor of service stations, to which position he was named about a year ago after being with the organization for about 10 years.

Robert J. Anderson, III, who received his doctor of science degree in Metallurgy with the Class of 1925, has recently been appointed head of the Department of Metallurgy at the Southwest Research Institute. The Southwest Research Institute is a nonprofit, independent research organization, which was established in San Antonio about four years ago and is affiliated with the Institute of Inventive Research and Education. Dr. Anderson was a consulting metallurgist for numerous companies and has been a lecturer in the Carnegie Institute of Technology, adviser to the Quartermaster's Office and the National Production Authority, and manager of the metallurgy department of the Goodyear Tire and Rubber Company and the Goodyear Aircraft Corporation. He is the author of many papers on light metals, corrosion, ferroalloys, metal economics, and physical metallurgy.

One further promotion concerns G. V. Slottman, X-B, Director of research and engineering for the Air Reduction Company since 1949, who has been elected a vice-president of the company. In the last class notes, I mentioned the fact that Bob

Ashworth, II, was attending a convention in Boca Raton, Fla. Shortly after submitting those notes, I received a memo from Jack Dunbar, XV, who, of course, resides in Florida, with a clipping from the *Miami Herald*. It noted that when Bob and Mrs. Ashworth came to the airport preparatory to heading back home, they found that the hangar had collapsed and their *Beechcraft Bonanza* was in a state of ruin. It is hoped that Bob has gotten matters straightened out by this time.

Many of you may be interested to know that Tom J. Killian, VI-A, has been nominated by the Alumni Association to the Corporation's Visiting Committee on the Department of Electrical Engineering. Best wishes for the summer. — F. LEROY FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

While reflecting and working up the necessary inspiration for this issue of class notes, it came to mind that the Class of '26 will have been in existence for 30 years, come September. We have been through a boom, a bust, and a war during that period. Many have raised families—several have had sons graduate from the Institute and start the cycle over again. It sounds as though we were preparing you for a bit of reminiscing, but strangely enough, unless we go all the way back to '26 and the four preceding years, we have been together as a group but 10 days in the 26 years. That is not a long period over which to do a great deal of reminiscing. That is one reason why we started publishing biographies of various class members. We hope in that way to eventually fill in the voids and catch up to what has happened to the Class over the years. Thus far, we have published 36 biographies and have quite a number of forms that have been returned to us which will be organized and published in future issues. This month we shall publish just one biography, but it is one of the most inspiring of all. We are sure that many of you could add interesting anecdotes but we have waited too long already to publish the biography of our venerable Class President, so here goes:

No. 37—SHEPARD, DAVID ALLAN—The first contact we made with Dave must have been registration day in September of 1922. There happened to be a tall, friendly kid standing in line at the Bursar's Office and we became acquainted because he had a musical instrument under his arm—a flute or a piccolo, if we recall correctly. At any rate, he and I agreed that when we got through the line we would go over to Walker and see about joining the Musical Clubs. That was the beginning of Dave's interest in activities at the Institute and it was not long before he was elected president of our Class. We are going to reprint the write-up beside Dave's picture in the '26 *Technique*. It is one of the longest for the Class: David Allan Shepard ΦΓΔ, Denver, Colo., born January 29, 1903; prepared at Colorado State College; Chemical engineering; Osiris; Beaver; Walker Club; Tau Beta Pi; Theta Tau; Baton; Chemical Society; Class President (2,4); Institute Committee (2,3); Chairman (4);

Field Day Marshal (4); All-Tech Smoker Committee (2,3); Circus Committee (3); Junior Prom Committee (3); T.C.A.; Religious Service Dept. (2,3); Chairman (3); Tech Show, Specialty Act (2,3); Banjo Club (2,3); Mandolin Club (1,2,3); Leader (3); Dance Orchestra (3); entered Freshman Year. That takes Dave through '26. He stayed on in X-A and obtained his M.S. in '27.

Dave was out of the country a great deal but he somehow managed to show up at reunions with regularity. At the outbreak of the War we saw him for a split second in Grand Central Terminal and in a quick greeting learned that he was headed for England, for our State Department. Dave's father was an M.I.T. man and a dozen of us a few years ago were thrilled on Alumni Day when a member of the 50-year class came over to the '26 table and introduced himself as Dave's father.

We recently came across a pretty complete write up of Dave in the *Lamp*, a publication of Standard Oil Company (New Jersey) for employees and stockholders. From this we quote: "New Board Member—The newest member of the board of directors of Standard Oil Company of New Jersey is David A. Shepard, a forty-nine-year-old native of Denver, Colorado. His career with Jersey and several of its affiliates might be described as the evolution of an able research engineer into a diplomatist, whose full talents are exercised only when the job at hand involves human, as well as purely mechanistic, problems. When Mr. Shepard first went to work for a Jersey company, it was as a member of a group of young engineers recruited from Massachusetts Institute of Technology. The year was 1927; the occasion was the establishment at Baton Rouge, Louisiana, of the Esso Laboratories of the new Standard Oil Development Company.

"Mr. Shepard worked first on the then new hydrogenation process, which was a principal concern of the Baton Rouge laboratories. After a brief period spent on problems of product application, he went abroad in 1934 as European representative of the Development company and in 1940 became technical advisor on foreign sales for Jersey Standard. In 1942 and 1943, as petroleum attaché at the U.S. Embassy in London, he dealt with wartime deliveries of petroleum products to England. Late in 1943 he was appointed shareholders' representative for Jersey Standard in the United Kingdom, and became intimately involved in the affairs of Jersey's British affiliate, now Esso Petroleum Company, Limited.

"Before he returned to New York, in 1949, to be executive assistant to Jersey President Holman, Mr. Shepard served as chairman of the board of the British company and, with others, was active and influential in two matters of special importance to Jersey Standard. First was the adjustment of the relationship between Jersey and its European partners in Iraq Petroleum Company, which became necessary when Jersey arranged to acquire its interest in Arabian American Oil Company. Second was the planning of the Fawley Refinery, one of the biggest

new industrial projects in England. From his European years, Mr. Shepard returned speaking excellent French and good German. From his time in Europe, too, he became an enthusiastic skier. From somewhere, he has an affinity for the guitar, on which he wholeheartedly accompanies himself in cowboy ballads. Mrs. Shepard and he, with their two children, live at Purchase, New York." There is not a great deal to add to the article taken from the *Lamp*. However, Dave's reply to our questionnaire at reunion last June tells us that his wife was Vassar '25, that his daughter is Vassar '54, and that his son is at Deerfield Academy. Most of you know of Dave's continued interest and activity in Alumni affairs. In addition to being our permanent Class President, he is representative of U.K. on the Alumni Council and he was elected a term member of the Corporation in 1951.

As we have explained before, these biographies are assigned numbers which permits additions and expansions in the future by referring to the same number in your scrapbook. Therefore, any anecdotes that can be added to Dave's biography will be published as fast as you send them along. Meanwhile, we shall lay down the pen until fall and take up the anchor with fond hope of learning to maneuver a sailboat during these next few months. Please let us have some word from you this summer and we will be especially interested in hearing about any other '26 men you may encounter during your travels. Best wishes to all of you for a most pleasant vacation season. — GEORGE WARREN SMITH, *Secretary*, E. I. du Pont de Nemours and Company, Room 1420, 140 Federal Street, Boston, Mass.

• 1927 •

The 25th reunion will be a memory when you read these notes. Hope you were there. And the 25th Reunion Class Book will have been published for posterity. Hope you have your copy. This book contains over 500 up-to-date biographies of our classmates, and over 150 recent photographs, together with many pages of other material of historic and sentimental interest, such as the stories of all of our previous reunions. You will want to have a copy for your library. This is the first 1927 Class Book, and very likely the last (judging by the work involved in its preparation). Send a check for \$8.50, made out to "M.I.T. Class of 1927," to Glenn D. Jackson, Jr., North Carolina Finishing Company, 93 Worth Street, New York 13, N.Y. Your copy will be sent postage prepaid.

Here is T. S. Bogardus' account of his recent and past activities: "About my activities, beginning now and going back, I am professor of engineering in the Baldwin-Wallace College, a small, private, liberal arts college at Berea, Ohio. We have a pre-engineering course by which we send the men to Carnegie Tech or Columbia for the last two years of a five-year course. This is a type of education in which I believe deeply, rather than beginning technical training from high school. I am village engineer for some of the nearby villages. This keeps

me in fighting shape so that I do not become too dogmatic in my teaching. Also I have six farms on which I have been raising Christmas trees. This is probably more recreation than work. We plant about 80,000 trees a year and harvest about half that many. These farms are in Pennsylvania. I have a farm of 50 acres, all inside of the city limits of Berea, on which I live. I have a few trees here, but raise mostly corn and beans on it. For busy work this summer, I plan to build 28 houses on one part of it."

American Shoemaking magazine carried the following item about Don Spitzli: "A new and up-to-date laboratory in the textile industry is being built at the Paterson, N.J. plant of the Linen Thread Co., Inc. Donald H. Spitzli, Linen Thread's director of research, will be in charge of the new laboratory which will be built as an addition to the main plant on Grand Street, Paterson. The man who will head the activities of the new laboratory, Mr. Spitzli, holds two degrees from M.I.T., has had previous experience with Congoleum-Nairn Inc., and holds a number of patents. He is a member of several important chemical societies and is a vice chairman of the Admission Committee of the American Institute of Chemical Engineers."

The New York Daily News Record recently announced that R. Furman Lowry has joined McDowell Associates, Inc., textile machinery dealer, as director of the cotton textile machinery division. He was previously with Crescent Corporation as assistant export manager. Prior to this, Lowry was in the management and industrial engineering field. William P. Winsor recently marked his 25th anniversary with the Reinhold Publishing Corporation as vice-president of the company and publisher of *Materials and Methods* magazine. Bill started with Reinhold as a salesman in 1927, and after six months of selling in New York, opened the publishing house's first Cleveland office and its second branch office. (While there he operated the only car the company ever bought a salesman.) In 1931 Mr. Winsor became advertising manager of *Metals and Alloys*, later named *Materials and Methods*. He became business manager in 1937, publisher in 1947, vice-president of the corporation in 1943, and director in 1946. His hobbies are bridge and canasta — "The scientific, four-handed canasta that is."

The *Christian Science Monitor* of Boston recently called attention to the development of a superior quality strain of broccoli seed which has brought signal honors to R. E. Young associate research professor at the Waltham Field Station of the University of Massachusetts. Among the more than 50 leading agriculturists of New England gathered to honor Mr. Young, William Richards, Class of '27 and operator of Veg-Acre Farms, a 400-acre tract in Forestdale, Mass., spoke of raising a ton of this new broccoli seed last year — seed which, largely through his efforts, has now been reduced in price to 50 cents an ounce. Precision farming, as practiced by Mr. Richards, includes the use of huge bulldozers in clearing the land along with a dozen or more mechan-

ical subsoil diggers, smoothing harrows, seeders, weeders, cultivators, sprinklers, stone pickers, icers and harvesters — in every way a large-scale mechanized farm operation.

F. Hall Hatley's new address is 28 Walnut Street, Milton 86, Mass. He has been in this area over two years as controller of Farrington Manufacturing Company and subsidiaries. He has departed somewhat from the practice of engineering, although the technical training certainly stands him in good stead every day because of the need for clear analysis of the factors entering into the financial end of a business.

Be sure to send for the Class Book. — JOSEPH S. HARRIS, *General Secretary*, Aviation Department, Shell Oil Company, Inc., 50 West 50th Street, New York 20, N.Y.

• 1930 •

It is with deep regret that we record the passing of classmate Francis S. Walker, who died in January as the result of injuries received in an automobile accident. A grandson of an early president of the Institute for whom Walker Memorial was named, he studied law at Yale and was general counsel to the Federal Maritime Board and the Maritime Administration.

Hugh Mulvey has received an award from the Army for his contribution to the World War II effort in industrial intelligence for the Joint Chiefs of Staff. He is chief design engineer of the Piasecki Helicopter Corporation, Morton, Pa. Bob Phelan is a partner in the new firm of Taconic Farms, Germantown, N.Y., breeders of Swiss mice for laboratory purposes. Bob Elderfield, a chemistry professor at the University of Michigan and chairman of the division of organic chemistry of the American Chemical Society, recently edited Volumes III and IV of *Heterocyclic Compounds*. Ferdinand Rousseve, professor of fine arts at Boston College, has been lecturing in Greater Boston churches on church art and architecture. In March, Worthen Taylor gave an illustrated lecture in Hingham on the subject, "Living with the Atom." He is an engineer for the Massachusetts Department of Public Health, in charge of radioactive monitoring in the state's Civil Defense. Alan Bemis, of the Institute's Meteorology staff, is a member of the visiting committee of Harvard's Blue Hill Observatory.

Leroy Marek, Vice-president of Arthur D. Little, Inc., in charge of the technical operation of the company, has been made a member of the board of directors. Guillermo Zuloaga has been elected to a directorship in the Creole Petroleum Corporation of Venezuela. *Time* magazine calls him the most important South American in the oil industry. Charles Warden is the new works manager at Vanderbilt Park for the South African Iron and Steel Industrial Corporation, Ltd. Elected to vice-presidencies in their respective companies are: Claude Horton of Brown and Root, Inc., of Houston, former manager of their transmission and pipe-line projects; Robert Jones, chief engineer of the Saco-Lowell shops in Maine; Jack Latham of

Arthur D. Little, Inc., where he will continue as technical director of the mechanical division; George Shrigley, by Shoppers' World Services of Framingham, Mass., where he also serves as general manager; and Joseph Stevens, technical director of J. T. Baker Company of Phillipsburg, N.J. Our congratulations and best wishes to you all.

Jack Bennett saw Phil Torchio at Harvard Business School recently. Phil was enrolled there in the advanced management program. Jack's class letter was mailed from the Alumni office, which takes full responsibility for the irregularity in his signature. We hope you will heed his suggestion of sending an occasional letter to the Class Secretaries so that we may have sources of information concerning your doings other than the clipping services which continue to be the basis for most of our notes. Such letters will make our job easier and this column much more interesting to our classmates. The two Bobs join me in wishing all of you a very pleasant summer. — PARKER H. STARRATT, *General Secretary*, 1 Bradley Park Drive, Hingham, Mass. *Assistant Secretaries*: ROBERT M. NELSON, 2446 Iroquois Road, Wilmette, Ill.; ROBERT A. POISSON, 150 East 73d Street, New York 21, N.Y.

• 1931 •

It is hard to realize as I sit here typing these class notes that a year has passed since we were in the throes of completing arrangements for our 20th reunion. A pleasant reminder arrived in the mail today in the form of a neat little brochure from the Mattapoisett Manor, announcing that they were open for the season.

In a previous issue of *The Review* we passed on news about Frank O'Leary, and the other day the Alumni Office notified me that he had been nominated by the Alumni Association to the Corporation's Departmental Visiting Committee on the Division of Industrial Cooperation. Shortly after receiving this news came the official announcement that Gordon S. Brown had been appointed head of the Department of Electrical Engineering at M.I.T., effective July 1, 1952. Details of Gordon's promotion and career will be found on page 427 of the June issue of *The Review*. Our Class was well represented in Faculty promotions. In addition to Gordon's promotion, Arthur E. Fitzgerald was promoted to full professor of Electrical Engineering and your Secretary received a promotion to associate professor of Mechanical Engineering, as recorded on page 428, June Review.

Through the courtesy of your president, there has been compiled an up-to-date, 20-page roster of the Class of 1931. If there is enough call for the roster, which was made up for the class officers, it may be possible to send out a copy. Have a good summer and keep your copy coming. — AUGUST L. HESSELSCHWERDT, JR., *Secretary*, Room 3-240, M.I.T., Cambridge 39, Mass.

• 1938 •

Once again the mail is light but we will look forward to its picking up in the fall. A note from Don Severance tells us that

Oscar Senter has been nominated by the Alumni Association to the Corporation's Visiting Committee for the Department of Meteorology. A news release from General Electric announces that Bob Treat of the Chemical Division has been named supervisor of customer service for G.E.'s Silicone Products Department at Watford, N.Y. Probably a large number of the chem engineers in '38 recall that Bob first was with Goodyear Tire and Rubber Company as a technical superintendent. He left Goodyear to join G.E. in 1944. A news item tells us that Bill Bender has been appointed chief electronics engineer at the Glenn L. Martin Company. Bill has been with the Martin Company since 1939, after receiving his Master's degree.

It is hoped that a large number of you will start giving some thought to your desires on our 15th reunion. Let us get a few views which we can include in the notes and let us start planning now for a record turnout. Late in April a few of the fellows met briefly in the Campus Room to exchange ideas on the reunion and it is suggested that many other such meetings be planned. Present at this discussion were Don Severance, Al Wilson, Norm Bedford, Don Mitchell, and Dave Acker. — ALBERT O. WILSON, *General Secretary*, 24 Bennington Road, Lexington 73, Mass. *Assistant Secretaries*: DAVID E. ACKER, 210 Woburn Street, Lexington 73, Mass.; FREDERICK J. KOLB, JR., 211 Oak Ridge Drive, Rochester 12, N.Y.; RICHARD MUTHUR, 116 West 67th Terrace, Kansas City, Mo.

• 1939 •

It is with extreme regret that we must inform you of the death of our Class Secretary, Stuart Paige. He died on the 28th of March while recovering from an earlier operation. Stu was active in many affairs while at school and made many friends there. The members of our Class will miss him very much and wish to express their deepest sympathy to his family.

We have word that Commander John Burgess Darrow has taken over as head of the Rochester Naval and Marine Reserve Unit. He was recalled to active duty in October, 1950, and is president of the Akron Camera Company in civilian life. Bob Casselman gave a talk before the advertising Club of Boston on April 22, entitled "A Sales Program that Clicked" or "Three Years with the Land Camera." Bob is sales manager of the Poloroid Corporation that manufactures the Land Camera.

We have a letter from Wilson Keene telling us that he is now working for Uncle Sam. He is with the Plants Division, Engineering Agency, Army Chemical Center, down in Forest Hill, Md. He talked to Jack Bittel's ('40) wife on the phone and found that Jack is a lieutenant in the Navy and is on sea duty aboard a destroyer. Wilson also had a drink with Manning Morrill in Cedar Rapids. All is well there. Talked to Nick Carr the day his second daughter was born. She is named Katherine Melinda Carr and arrived on April 29. Congrats! Spent some time with Byron and Prilla Hunicke. They are well and happy with their boy and two girls. Byron is with Plymouth Cordage. All letters from the members of the

Class are appreciated. Let us hear from you. — GEORGE BEESLEY, *Assistant Secretary*, Whittemore-Wright Company, Inc., 62 Alford Street, Charlestown 29, Mass. MICHAEL V. HERASIMCHUK, *Assistant Secretary*, Post Office Box 495, Bethlehem, Pa.

• 1940 •

I regret that I have to report the death of another classmate. Lieutenant Commander Frank Welch, Jr., United States Navy, T.M.I.A.S., Commanding Officer, VF-111, Fleet Post Office, San Francisco, was killed on October 29, 1951. Commander Welch was born in New Orleans on November 17, 1918, and attended high school in San Diego and in Arlington, Mass. He was a member of our freshman class in Course XVI and left the Institute the following year to enter the U.S. Naval Academy from which he was graduated in February, 1941. After completing his flight training in 1944, Frank was assigned to duty in various naval fighter squadrons as pilot, operations, and executive officer. He was sent to the U.S. Naval Postgraduate School from 1947 to 1949 and to the California Institute of Technology from 1949 to 1950. He received his professional degree in aeronautical engineering from that school in 1950. Commander Welch is survived by his wife, Joan.

Jud Rhode has been promoted from assistant technical superintendent to technical superintendent of the Nylon Group of Du Pont at the Belle Works Technical Section in West Virginia. Jud has been with Du Pont since leaving Tech in 1941. Bob Hess sent in the closing item of the month. It is a full-page advertisement of the Mutual Benefit Life Insurance Company in the April 19, 1952, *Saturday Evening Post*. The ad tells why Stretch Sebell decided to take out insurance with Mutual Benefit. There are several photos of Stretch and also an interesting family scene showing his wife and three daughters.

This column winds up another volume of the '40 notes for *The Review*. Don't forget to write to Al during the summer so that we can start the new volume this fall with a bang-up column. — ALVIN GUTTAG, *General Secretary*, 7114 Marion Lane, Bethesda 14, Md. MARSHALL D. MCCUEN, *Assistant Secretary*, 626 Kensington Road, East Lansing, Mich.

• 1941 •

First off, my apologies for not verifying the cost of the reunion picture last month as I promised: It will be \$1.50, as previously estimated (size, seven by nine inches). For copies in any quantity, drop me a line. Unfortunately, the address given in Will Mott's very nice letter of introduction is no longer up to date: the Collins are now at 28 Sherman Road, Greenwood, Mass. (part of Wakefield, if the nomenclature is unfamiliar to you, as it probably will be). Any and all of you are welcome to drop in any time, and will be delighted to see you. Experts with hedge shears are especially desired — the place has something like 250 feet of hedge to be trimmed.

The Monsanto Chemical Company not only honors M.I.T. on its "Songs from

New England Colleges" program (well worth listening to), but it also honors '41 by promoting Sanford Glick to assistant sales manager of thermoplastic molding materials for the Plastics Division in Springfield, Mass. Sandy has been with Monsanto ever since graduation, according to the news release, and in 1946 was named manager of technical service on thermoplastics. He also had a lot to do with the initial research on production of "Lustrex" styrene, and in the development of dry coloring of styrene. Congratulations and lots of luck in the new job, Sandy.

The Quincy *Patriot-Ledger* came out with quite a story on Rogers Finch, who is now assistant professor of Textile Technology and director of the Slater Memorial Research Laboratory at M.I.T. He was one of 14 of the country's leading engineering educators who went to the Far East last summer. The group made the trip at the request of the Supreme Commander for the Allied Powers. Rog took his master's in Textile Technology in 1947, and his doctor's in fibrous high polymers in 1950. He served in the Army as director of heavy textile research and development at the Jeffersonville, Ind. Quartermaster Depot. He is now executive vice-president of the Broadalbin Mills, Inc., of Broadalbin, N.Y., in addition to his duties at the Institute. The Finches live in South Weymouth.

Several members of the Class have been in the writing or speaking business lately: Burnham Kelly, Associate Professor of City and Regional Planning and Director of the Albert Farwell Bemis Foundation, spoke on prefabricated housing to the Institute of Professional Town Planners in Toronto in February; and in April to the Greater New York Safety Council on industrial dispersal to reduce vulnerability to attack. Dr. Rita M. Kelley, of the Tech infirmary staff, coauthored an article on "Hormonal Treatment of Cancer" for *The New England Journal of Medicine*; and James Austin spoke at the midwinter meeting of the Alumni Association on "When Will We Have Better Weather Forecasts?"; at which time he told of the contributions made by M.I.T. to the science of weather forecasting. William Ahrendt and John F. Taplin '35 have written a book entitled *Automatic Feedback Control*. Bill is at present the president of the Ahrendt Instrument Company, a firm specializing in production of automatic control devices, and in his spare time serves as a lecturer on the staff of the University of Maryland. The Ahrendts live in West Hyattsville, Md.

The Alumni Association recently announced the nomination of Dr. John Sluder to the Corporation's Visiting Committee on the Department of Food Technology Department. Harold Lent reports that he spotted Herman Gabel drumming up transformer trade at the electrical show in Boston around mid-April. Harold is in the test equipment section of the General Electric Meter and Instrument Laboratory in Lynn, and lives in Lynnfield Center. Roger Robertson has been awarded a bachelor of laws degree from George Washington University in Washington, D.C. Roger is now with the

Bureau of Standards and lives in Kensington, Md. Lieutenant Commander Henry F. Silsby, who had been aerological officer at the Navy All-weather Flight School, Corpus Christi, Texas, an advanced school for training pilots in instrument flying, is now on duty as aerological officer in the Panama Canal Zone.

Gloria Von der Lehr and Jack Speller were married January 12, 1952, in Larchmont, N.Y. Gloria is an alumna of Smith College; Jack is associated with the Norden Laboratories in White Plains. They are living in Scarsdale. Virginia Blevins became the wife of Blinn Russell at Dayton, Ohio, January 11, 1952. Blinn is at Wright-Patterson Air Force Base, and the couple is now living in Dayton.

A continual stream of changes of address flows across the Secretary's desk, so, on the theory that they may be of interest to some of you, this column will publish as many as space will permit: R. Wilson Blake, Jr., 9616 Cottrell Terrace, Silver Spring, Md.; William R. Burke, 6330 Aberdeen Avenue, Dallas, Texas; George W. Clark, 67 Heiskell Avenue, Wheeling, W.Va.; Raymond C. Foster, Glezen Lane, Wayland, Mass.; Elmer F. Greenleaf, 510 21st Street, N.W., Washington, D.C.; Frederick T. Haddock, Route 1, Box 279, Alexandria, Va.; Edgar E. Hayes, 37 Richard Avenue, Vilone Village, Wilmington, Del.; Rudolf W. Hensel, 1560 Knollwood Terrace, Pasadena 3, Calif.; Sterling H. Ivison, Apartment 402, 1657 31st St., N.W., Washington, D.C.; Richard P. Knapp, Box 2180, Houston 1, Texas; Donald M. Knott, 1907 Howell Avenue, Richland, Wash.; Kenneth G. McKay, 4 Montview Road, Summit, N.J.; Francis A. Regan, 246 North Plum Grove Road, Palatine, Ill.; Walter Turansky, 29 Arnold Way, West Hartford, Conn.

With this issue, *The Review* goes into wraps for the summer. Happy vacations to all of you. Please drop me a line (even a post card will be welcome) from wherever you may be, and whenever you get a chance. Any news can be considered of interest. See you in November. — Ivor W. COLLINS, *General Secretary*, 28 Sherman Road, Greenwood, Mass. JOHAN M. ANDERSEN, *Assistant Secretary*, Saddle Hill Farm, Hopkinton, Mass.

• 1943 •

We take great pleasure in extending congratulations to the Bernard Brindis on the birth of their second daughter, Susan, on January 26, 1952. You will recall that their son Ralph was born on May 20, 1949, and his first sister, Jane, arrived on February 24, 1951.

The engagement of Elaine Gloria Garner to Robert L. Mitchell, Jr., has been announced by her parents from their home in Kew Gardens, N.Y. A spring wedding is planned for this couple. Bob is a chemical engineer with the Koppers Company. The former Diane Jane Kaufman and Daniel B. Miller were married in the evening of January 31 last in the Hotel Pierre in New York City. After their wedding trip in the Virgin Islands, the couple will be at home in Providence, R.I. Just a few days later, on February 6 to be exact, the wedding of the former Ilse Margrit Carmen and Lewis D. Lip-

schutz was celebrated in the vicinity of Poughkeepsie. I am not absolutely clear about what this couple's new address is, but it appears to be 141 College Avenue, Poughkeepsie. It is announced that the wedding of the former Phyllis Marjorie Thompson and E. Charlton Crocker took place in Boston on May 15. This couple will be at home at 166 Thornton Road, Chestnut Hill, Massachusetts, after the first of July.

Jonathan H. Sprague, Jr., has been appointed co-ordinator of priorities and purchasing agent for the Monsanto Chemical Company in St. Louis, Mo. Prior to this appointment he had been a technical representative for Monsanto in Washington. A card from Dick Feingold announces that he has opened his office for "the general practice of law" in Hartford, Conn., at 49 Pearl Street. John Edward Guillotte has recently been promoted to the position of an assistant technical superintendent with Du Pont's Sabine River Works in Orange, Texas. Prior to this time, he had first been assigned to the Remington Arms Company plant in Bridgeport, Conn., then the Hanford Engineering Works in Richmond, Wash., thence to the Arlington Works in Kearney, N.J.

Earlier this year, the National Advisory Committee for Aeronautics announced the appointment of John P. Longwell as chairman of the Subcommittee on Combustion. In making this appointment, among others, the N.A.C.A. chairman noted that aeronautical leaders so honored would be of material assistance in formulating the N.A.C.A. programs to provide information for the design of superior aircraft and missiles. The appointees, who are recognized leaders in their particular fields, have been selected because of their technical ability and experience. Dr. Longwell is a project leader in the Process Division of Standard Oil Development Company and lives in Scotch Plains, N.J.

From Steve Heller I have a brief note in which he admits, in part, that: "At long last I have a little item for you that may be worthy of being put in *The Review*. The only difficulty is it concerns myself. Throwing all modesty to the winds, let me inform you that I left my former position on the first of January and am now happily settled in my work in Dayton and Western Ohio for the Welding Products Division of the A. O. Smith Corporation.

"I'll miss the meetings of the M.I.T. Club of Chicago, as it was a very active group and the men of the Class of 1943 were unusually good in attendance. The only member of the Class of '43 that I know of in the neighborhood is Trygve Blom, who is at Wright-Patterson Air Force Base."

And while quoting from letters, here's another. This one is from Bob Rorschach, who tells us: "It has been so long since I sent you any information about myself that I can't remember when the last time was. I'll start with my marriage in 1947 to Susan Sample of Tulsa, Okla. Following that, I worked for a year as a shift supervisor in the Fischer-Tropsch Process pilot plant of Stanolind Oil and Gas Company in Tulsa. Then back to M.I.T. for two years graduate work and an M.S. in

Chemical Engineering. In 1948, I had the honor to represent the University of Tulsa at the Mid-Century Convocation, and enjoyed a most memorable week. Like many others, I was supported by the taxpayers during these two years; the first under the G.I. Bill, and the second on an Atomic Energy Commission Fellowship.

"I left Boston in 1950 and came out here to Salt Lake City to work for American Smelting and Refining Company. My actual employer is the Garfield Chemical and Manufacturing Corporation, a joint subsidiary of A.S. and R. and Kennecott Copper Corporation which manufactures sulfuric acid. My experience here has been quite varied: control lab work, production supervision, and technical service on everything from heat losses to water treatment. My greatest problem is being a chemical engineer from M.I.T. in a place populated by metallurgists from west of the Rockies. Every day I have to have a new answer to the question, 'Yes, but what has M.I.T. done recently?'"

"We are old Salt Lakers now, but have not joined the L.D.S. (Mormon) Church. The junior members of the family now consist of Robbie, 3, Mollie, 2, and Betsy, brand new. We live under a cosy little mortgage in the shadow of the Wasatch Mountains, with a beautiful view of the Great Salt Lake Valley."

Special congratulations are due James Miller who was one of three to be awarded a Charles A. Coffin Award for accomplishments of outstanding merit in 1951. This award, made by the General Electric Company, is the highest honor attainable in that Company. Jim is assigned to the metallurgical staff of the Thomson Laboratory at the River Works in Lynn, Mass. These awards are presented in recognition of outstanding accomplishments above and beyond normal duties. Jim, in collaboration with one of his fellows, was selected for this award as a result of his efforts in the field of high-temperature metal testing. Jim joined General Electric in 1950, since which time he has been engaged in alloy development and metallurgical testing at the Thomson Laboratory.

I have a brief newspaper clipping telling us that Keith E. Rumbel has joined the staff of the Atlantic Research Corporation in Alexandria, Va. Reynolds du Pont was elected, in January, to be president of the Delaware Safety Council. He is an area supervisor at the Edge Moor plant of the Du Pont Company's Pigment Department. He joined the company in 1941. He enlisted as a seaman in the Navy immediately after Pearl Harbor, served in both the Atlantic and Pacific, and was wounded aboard a mine-sweeper in April, 1945.—CLINTON C. KEMP, *Secretary*, 29 Verlynn Avenue, Hamilton, Ohio.

• 1944 •

This past spring has been marked by some startling gains in the baby sweepstakes. The Frank Nolans achieved their third, a boy, early in April. The Jim Healys regained their lead position a few days later with their third boy. The Healys deserve an edge, for they have one adopted in addition to their own three.

George Sherman shrugged off these new patriarchs with the question, "How old is their oldest? The oldest of my three is eight." The Pinky Russells are in here, too, with two boys: Duncan three, and Nathan one. Frank McKinley, a slow starter, had his first, Frank, Jr., in February.

A few of our friends are working behind today's labor headlines. Peanuts Nolan, with the Jarka Corporation, leading new stevedores, is kept hustling by the recent waterfront activities. Has capitalism a friend on the wage stabilization board? Ken Scheid has been developing much of the data for the recent wage recommendations. Ken received his masters in business administration at Chicago and last spring got his doctorate at Tech. This past fall he married the former Minett De Boer of Framingham, the Overland Conservatory of Music, and the Hickock School. Since then they have been living in Arlington, near Washington, D.C.

A group of our boys are beginning to whoop it up industrially. Stan Pasternak was recently promoted to assistant superintendent of the Hollingsworth and Vose Company, West Groton, Mass. George Sherman is managing his George E. Sherman Company, manufacturer of chemicals for the textile industry, and dabbling in several others. Al Hildebrandt is with the venture capital firm of Payson and Frask, managing their electronic and mechanical interests. Eliot Reed has acquired a senior standing in that young field, TV, by virtue of his four years work as district manager with Free and Peters, TV station representatives.

With these few lines, 10-44 is back in print. I'll do my best to keep us here every month. Any help, such as a sentence or two about yourself, will make the way much easier.—JAMES S. MULHOLLAND, JR., *Secretary*, 1172 77th Street Brooklyn, N.Y. *Assistant Secretaries*: JAMES B. ANGELL, Apartment B-4, 185 East Walnut Lane, Philadelphia 44, Pa.; *Assistant Secretary*, RODERICK L. HARRIS, 7308 52nd Avenue, N.E., Seattle, Wash.

• 1948 •

News of engagements and weddings has diminished in volume lately. Either there are very few unmarried members of '48 left, or the ones who are left can run faster than those of us who are already married. The one engagement announced recently is that of Herb Kindler to Phyllis Pitegoff of West Hartford, Conn. Recent marriages are three in number: Bruce Moseley married Betty Talley in Dallas, Texas. Richard Linnell married Charlene Talbot of Hilton, N.Y. The bride has been on the staff of the *Rochester News*, and the groom is engaged in research at Technology. Henry Dayton married Therese Mohl on the 19th of April in Saint Patrick's Cathedral in New York. Henry and his bride, who is the daughter of a count, will live at 109 Briland Street in Alexandria, Va.

We have received word that John Avalone has been promoted to the rank of captain in the 8th Army Field Artillery. John was called back into service in July, 1950, as a member of the active Air Reserve. Since last September he has been stationed in Korea, and has been in the

Punch Bowl and Bloody Ridge sector of the front. John is married and has a son, John, Jr.

Melvin Herlin of our Class has collaborated with William Allis of '23 on a book entitled *Thermodynamics and Statistical Mechanics*, published by the McGraw-Hill Book Company. The book is described as follows, and I am quoting since I don't understand much beside the articles and conjunctions: "A text for the first-year graduate course, this book contains material selected from the point of view of the physicist who has little interest in the efficiency of heat engines but who would like to understand the principles involved and their application to the properties of matter. Statistical mechanics is treated from the point of view of Boltzmann and Planck, basing it on the classical mechanics of mass points and permutations among cells in phase space which turn out to the size h ."

Reunion plans are now well under way and we will have a riotous get-together on the week end just before Alumni Day in 1953, which is Monday, June 15. Put the date on your calendar right now, if you can find one for 1953, because we want to have a big turnout when we renew old friendships and raise some of Technology's famous hell.—WILLIAM R. ZIMMERMAN, *Secretary*, 1604 Belmar Road, East Cleveland, Ohio; RICHARD H. HARRIS, *Assistant Secretary*, 207 Lovell Road, Holden, Mass.

• 1949 •

For those of you that have written regarding Jim Stevenson's death in Korea leaving a son and wife, I would like to bring to your attention the following. The pilots of the Marine Air Reserve Squadron VMF-235 have created a trust fund to pay for the college education of squadron youngsters whose fathers were killed in Korea. Among those to benefit from the fund will be James A. Stevenson, 3d, one year old. Lieutenant Colonel Edward J. McGee, former commanding officer of the squadron, is trustee of the fund. Those of you that would like to contribute to this very worthy cause can mail your pledge to Colonel McGee, Marine Air Reserve Squadron VMF-235, Squantum, Mass.

A recent letter brings us up to date on the happenings of Bev Kirkwood, who writes: "I remained for a graduate year at Technology, interrupting my studies to be married on December 26, 1949, to Mary Ann Biersterfeldt of Kirkwood, Maine. Although my majors were Mechanical Engineering (power) and Industrial Relations, I took a job as industrial engineer with the world's largest printer, R. R. Donnelly and Sons, Chicago. To date I have worked in the bindery and composing room setting incentive standards and am soon to begin a new job as special assistant to division director, which will involve budget work and special projects. A year ago Meredith Allyn arrived. Now 13½ months old, she has been walking for two months and is starting to talk. Last June we moved into a new home in Park Forest. I frequently see Paul Gerhardt, who is finishing up at Northwestern Law School, and have heard from Charlie Brekus, who is in the Army, and Paul Osborn."

Ralph Huggett writes: "I have been working for General Electric since graduation in the Aircraft Gas Turbine Division. On Easter Sunday, 1950, Paula Kelly, who was a secretary in the Technology Christian Association, and I were married. One year later we were transferred to Cincinnati and have built a house in Hamilton. On June 8, 1951, we became the proud parents of a son, Gary."

Had a very pleasant visit with Otto and Jerry Kirchner in Seattle last week. They are building a home on the shore of Lake Washington. Otto is administering cost analysis in conjunction with the engineering group working on the B-47. An inside informant of unimpeachable repute tells me that Bob Breese, in preparation for a trip to Washington, has purchased a mink.

Upon returning to the United States, Bertram Collins became a member of the Industrial Engineering Department of Atlantic Refining Company, Philadelphia. At the same time, he independently prepared a report on his investigation of the presetting of time standards for field welding operations. Recently Bert has joined Associated Industries of Massachusetts as a consultant on unemployment compensation.

Engagements: William Atkinson to Martha Logan of Baltimore. Bill is a naval architect with Electric Boat Company, Groton, Conn. Bruce Calhoun to Jacqueline Ruban of Moorestown, N.J. Jay White to Carole Leventhal of Brooklyn, N.Y. Jay is stationed at Fort Monmouth, N.J.

Weddings: Stanford Hartshorn to Sally Quincy on April 12 in Ashburnham, Mass. Stan is the treasurer of C. H. Hartshorn, Inc. George Smith to Naval Lieutenant Arline Harding on April 23 in Revere, Mass. George is a consulting engineer with Associated Factory Mutual Insurance Company. Harold Vitagliano to Patricia Ehrlich on April 5 in Baltimore.

You have all received Tom's letter mentioning our coming fifth reunion and the statistical review of our Class we aim to compile. If any of you would be interested in lending a hand, drop me a card. — CHARLES WILLETT HOLZWARTH, Secretary, 1421 Meridian Road, San Jose 25, Calif.

• 1950 •

News was down to a bare minimum last month and I decided to wait until this month and see if the mailbag would improve. It did improve a bit but there is never too much mail, so sit yourself down and drop your reporter a line during your summer vacation as you nonchalantly sip on a cool Tom Collins.

Wedding bells rang loudly on February 23 and Mary Rapley became Mrs. James McMartin. After a wedding trip to Florida, Mary and Jim will take residence in Baltimore, Md., where he is now employed as a construction engineer. Barbara Westman and Alexander MacMullen had bright, shining smiles as they left the First Parish Church in Milton, Mass., on the 22d of March. And they should have had, too, because they had just become Mr. and Mrs. He is an electrical engineer with the "Voice of America" and they

will live in New York and Munich, Germany. John Allen Reid took time off from his studies at the Harvard Business School to say "I do" to Wilhelmina Eaton. The wedding took place in St. Andrews Church in Wellesley, Mass., on April 20.

Jim Chin is now working in Washington, D.C., on a project for the U.S. Navy. Leete Doty is the newly appointed superintendent of the North Haven Pratt and Whitney plant. Gabriel Stilian recently coauthored an industrial engineering article published in a national management magazine. The article, entitled "A Quick New Way to Get Downtime Data," appeared in the March issue of *Factory Management and Maintenance*. The paper is based on the statistical "ratio delay" technique as applied at Warner-Hudnut, Inc., where Mr. Stilian is an industrial engineer. Barney Byrne is working in East St. Louis for Monsanto Chemical Company. Ronald Brightsen is working for Westinghouse Electric Company in Pittsburgh, Pa. Margaret Coleman is working for the French Company, the mustard people in Rochester, N.Y. John Currie has gone north to Canada and is employed with the Sunshine Lardeau Mine in Beaton, British Columbia, Canada. Gilbert Hall is doing research work at the University of Michigan, and Karl Ingard is at Chalmers University in Göteborg, Sweden. Joseph Penzien and Charles Richbourg are both working for Consolidated Vultee Aircraft: Joe at Fort Worth, Texas, and Charlie in San Diego, Calif.

Now for news of the men in the Service. Lieutenant James Burke is at Camp Kilmer, New Jersey. Lieutenant Ward Davies, Jr., has been promoted to lieutenant commander. Lieutenant Warren Clement, U.S. Air Force, is out at Lowry Air Force Base in Denver. Lieutenant William Murphy, Jr., '51, U.S. Navy, is with the U.S.S. *Smalley*. Lieutenant Harold Moss, Air Force, is working out of Baltimore, Md. Henry Peacock is stationed at the Raritan Arsenal, New Jersey. Lieutenant Kenneth Sinclair, Air Force, is at Wright-Patterson Air Force Base in Ohio. Lieutenant Richard Stephan, Army Security Agency, is now in Europe. And Rich Rorschach hit Fort Belvoir two months ago. He's going to the same course I've just finished and after that he'll have three months troop duty here at Belvoir before shipment. Al Petrofsky headed for the Far East Command last month and next month Frank Winiarski and Karl Ahlstrand will be heading there too. Lieutenant Herb Sontag is heading for Europe this month. Received a letter from Lieutenant Jack DeWitt last week on his activities in Europe. He's with an Engineer Maintenance Company in France and is having a "jolly good time."

The second Sunday in May is a day that we all pay respect to Mom. This year the "Mother of the Year" was a Chinese mother of eight children, Mrs. Toy Len Goon. One of these children is a member of our Class. Edward received his degree in Chemistry and is now teaching at Rensselaer Polytechnic Institute. I, along with the rest of the Class, want to extend respects to Ed's mother, a truly remarkable woman.

Florence and Martin Osman became

the proud parents of a seven-pound, three-ounce boy on April 8, 1952. They have named him Eric Charles.

Back to weddings again: Jack McKenna and Dorothy Mahoney had a wonderful day for their wedding on May 3. Barrett Whitman received his commission in the Infantry, after six months of O.C.S., on May 23, and then took a walk down the center aisle with Joyce Richardson and made her Mrs. Whitman. Now, one last word from your reporter before he puts this year's work aside. By the time this gets into print, I'll be on a troopship to Europe. I received a good assignment in Germany and there are no complaints. I'll still keep in contact with most of you through this column, but I'm afraid I'll be needing an assistant to help me out on this side of the ocean. My base of operations will still be my home address, so don't be bashful. It's impossible to answer each and every piece of mail, but I try to answer most of them, sooner or later. Any of you people who are over in Europe, whether in the Service or just on business, drop me a line via the Bronx and we'll meet and indulge in a few German beers while we talk over old times. So long for a while. Have an enjoyable summer. — JOHN T. WEAVER, General Secretary, 1772 East Tremont Avenue, Bronx 60, N.Y.

• 1951 •

I hope this issue of Technology Review finds all you guys and gals of '51 enjoying the summer period. For many of you who decided to start your careers after Tech, this summer will be the first one with a vacation to look forward to; and for those who decided they needed a bit of more book learning, this period will be one of working only eight hours a day with no thoughts of exams and reports.

A letter mailed by your Secretary to Korea brought a speedy response from Vern Pfanku. Vern writes: "After leaving M.I.T., I sold real estate in Wisconsin for two months. In July I reported for Air Force duty and served in the Hq Air Installations at Stewart Air Force Base. Two months later I was ordered to the 5th Air Force in Korea. During my automobile trip to San Francisco, I stopped at Springfield, Ill., where I met Dick Greenwalt." Vern goes on to say: "At present, my station is the Pusan East Air Base. As engineering officer in the Installations Squadron, I am spending about \$3,000 a day on construction, maintenance, heavy equipment, and so on. Some of my other duties are: supply officer, assistant adjutant, assistant fire and crash officer, and others. This shows the responsibility and authority that a second lieutenant has in a zone like this. In the States, a second lieutenant is a peon; over here, he's a king."

As to how things are going there, Vern writes: "The worst things over here are the boredom, the never-ending dust, the mud, and the seven-day work week. However, there is some excitement. Pheasant- and duckhunting are excellent. The ducks and geese and all kinds of birds have thrived for years over here on the rice paddies and had been unmolested by guns. Also, I managed to take a trip one night on a combat mission in a

B-26. We did a little bombing and strafing in the Pyongyang area." And to prove it is a rather small world, Vern stated that he met Dan Maxfield in April while he was at the Air Force Base in Taegu. Also, Vern met Sonny Simmons '50 who is now a finance officer at Taegu.

Dick Lock reported in via letter from the Army Signal Lab at Belmar, N.J. Dick writes: "Yes, the Army decided that it needed me. However, when they got me and spent 13 weeks trying to make a Signal Corps officer out of me, they decided the best thing to do with me was to lock me up in a lab and leave me alone. Thus far my work for the Army has shown me that service life and marriage are compatible—so May 17th is the date. The wonderful gal is Nancy Morrison, a nurse from Buffalo. As you see, I've succeeded in heading off a confirmed bachelor like Lew Schaeffer by only a few days (Lou will be married on May 31)."

From Pasadena, Calif., Bob Schiesser writes: "The Army has taken me, with a mechanical engineering background, and taught me Ohm's Law—and then some. For a while I helped teach trainees at the training center at Aberdeen Proving Grounds. Stan Jones and Gordon Zucker worked with me. Later, after studying radio and radar, I worked in a group with John O'Brien and Skip Mott at Aberdeen. Now, I'm here in Pasadena as an instructor at Cal Tech's Jet Propulsion Laboratory. I have been quite fortunate, so far, in the type of work that I have been doing—I really like it. Perhaps I have forgotten too much about civilian life." Bob adds: "I really miss those grand beer parties we held at Tech. By the way, Tennessee Schwartzman is out in Arizona flying jets."

Marvin Burns sends in a note to report on his activities. He says: "I am working in the mechanical engineering section at the Naval Ordnance Lab near Silver Spring, Md. The work is terrific, new and stimulating problems all the time. Advancement is fairly rapid and I actually think that, at this stage of the game, the government salaries at least equal those available in industry." Marv adds: "There are a number of Technology men out here. In fact, the technical director of the lab is from M.I.T. and my senior supervisor is a member of the '41 class." Marv also reports that Ed Bronstein is working in his family's concern in Minnesota, making mattresses and other sleep products.

As to news of other '51 men, Erwin Harris reports that he has spent the year doing graduate work in physics at Brooklyn Polytechnic under a research and teaching fellowship. Erwin expects to be at Carnegie Tech next year with an assistantship. Henry Jex is working at the Southern California Cooperative Wind Tunnel in Pasadena. Joe Amblard writes that his work with a consulting engineering firm, dealing with pressure regulating valves and scientific fluid control for the chemical and petroleum industry, fulfills his need for nonroutine work.

Marital and engagement news: Jim Salveson and Pat McCoubrey of Brookline said: "I do" in April. And Dan Sullivan and Louise Wallace walked

down the marital path in May. Congratulations are in order! Also, your Secretary, Stan Marcewicz, wishes to announce his engagement to Irene Gallagher of Arlington.

Well, gang, that's all the news I have. I want to thank those of you who managed to jot down some news of your activities and to extend an invitation to all to write. — STANLEY J. MARCEWICZ, Secretary, R.D. No. 2, Box 70, Somerville, N.J.

• 1952 •

Well, here we go with our first appearance in The Review. Theses, our last finals, Senior Week, and graduation—a full four years are over and done. By this time most of us are settling into a new groove; sure hope it's a comfortable and well-paying one.

First off, engagements: Let's see, I guess it was back last February when Jean Howard of New Rochelle, N.Y., and Bill Morton announced their intentions. Ruth Lord from out Chicago way and Howie Anderson made the fatal move in late March. Howie Zasloff was successfully fenced in by his Brooklyn gal, Adele Heller, last December. Speaking of Brooklyn reminds me that Fran Wender and Al Kandel, another couple from that famous borough, made their announcement in June. Oh, yes: Jacky Viator of Gloucester, Mass., was presented with her engagement ring from Lou Di Bona last January.

Marriages are next: There are even less of these to write about. It looks as if the Class of '52 is starting off slowly here. Louise Wallace and Dan Sullivan exchanged vows on May 30 in New Bedford, the bride's home town; what a memorable Memorial Day that will be for them. That smiling pair we've all seen around—Anita Morse from nearby Newton Highlands and Gerry Laufs—beamed at all the guests at their wedding on June 8. A really wonderful way to top off graduation.

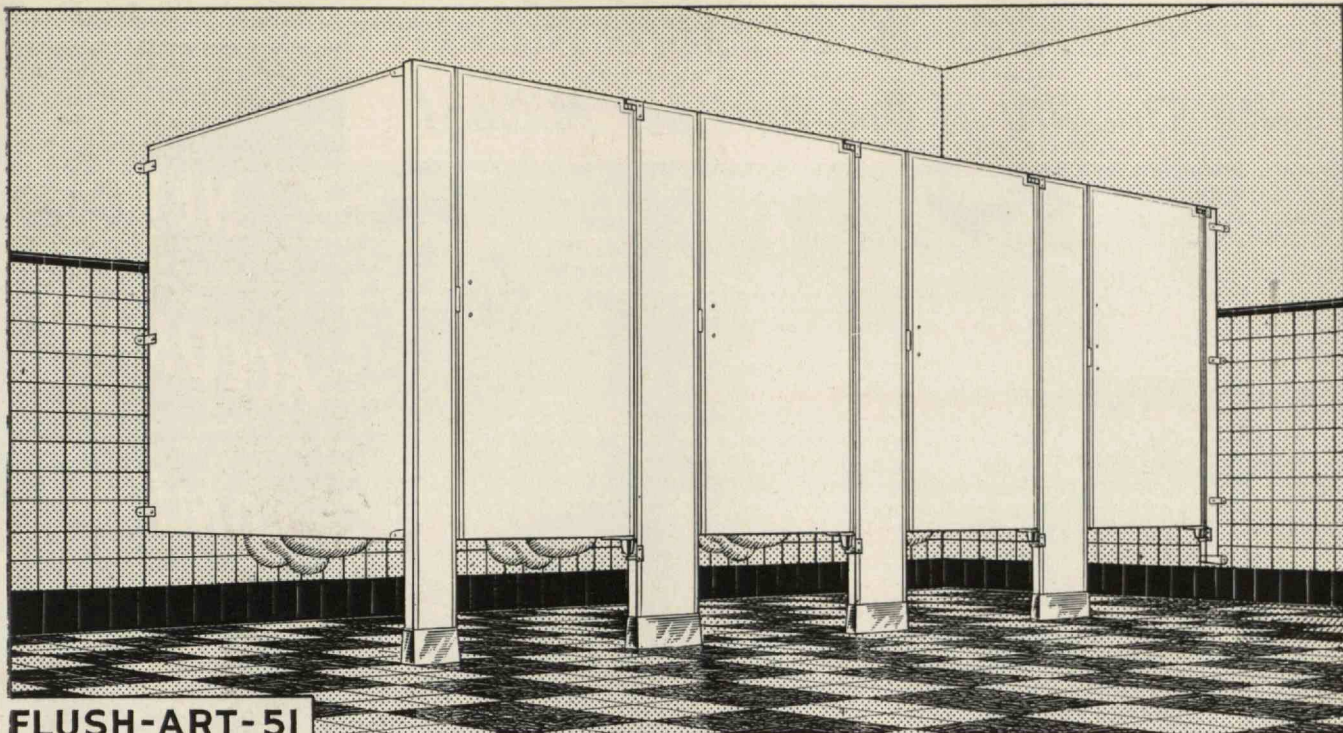
Classmates sticking around M.I.T. for grad work or some D.I.C. job are the following: Course I—Jack Larks, Hal Lawrence, Russ Olive; Course II—Darrell Frohrib, Chuck Honigsberg, Josh Neimark, Dick Semple, Rod Stuart, Paul Van Alstyne; Course III—Gene Rapoport; Course V—Mrs. Malvina Allen, Jim Pappas, Norm Weston, Frank Wilson; Course VI—Tom Cauley, Phil Fleck, Oliver Hall, Dick Jenney, Royal Jones, Bob Krulee, Jan Sciegienny, John Zuckernick; Course VIII—Al Engel, Art Freeman, Arnie G. Kramer, Vic Mizel, Norm Pearson, Bill Roat, Manny Rotenberg, Chuck Schwartz, Dick Sharp; Course IX—John Dixon, Joel Ekstrom; Course X—Lou Deis, Nick Haritatos, Enrique Ho Leong, Bill Horner, Bob Walsh; Course XV—Bob Briber, Mike Goldman, Bo Newcomer; Course XVI—Sinclair Buckstaff, Andrew Codik, Dana Morse, Ernie Schurmann; Course XVII—Stan Sydney; Course XVIII—Bob Archer, Josh Hayase, John Kimber, Jim Knowles, Tony Ralston; Course XIX—John Holloway. Two others mentioned Course X Practice School: Joe Gaven and Bob Lurie.

Others that will be around the Boston area at Harvard Graduate schools are the following: Course I—Mark Beran; Course II—Alex Maidanatz, Andy Wessel; Course V—Ed Lipinsky; Course X—Bill Dunn, Charles Neunhoffer, Ed Schwartz; Course XV—Jack Copenhaver, Len Polaner. Also working in the area are Hank Cross at National Company, Inc., in Malden; Jim Di Vito at New England Electric System in Boston; Don Duncan at the Boston University Physical Research Laboratory; Bob Goode at Arthur D. Little, Inc., in Cambridge; Abe Manevitz at Graphic Arts in Cambridge; Dick Marsh for General Electric in Lynn; Harry McCue at the Laboratory for Electronics in Boston; George McJilton for General Electric in Cambridge; Cliff Moon for Draper Corporation in Hopedale; Charlie Proctor for General Electric in Lynn; Hugh Robinson for United Shoe Machinery in Beverly; Joe Rubinovitz at the Boston Naval Shipyard; John Shannon at Robert M. Becker, Engineer, in Boston; George Shields for Procter and Gamble in Quincy; Dick Silverman for the Star Brush Company in Boston; Dan Sylvia at the Draper Corporation in Hopedale; and Frank Zuccardy for the Beacon Construction Company in Boston.

Another large group of the Class will be located in New York City. These are: Al Andrus for the National Biscuit Company; Merrill Baumann for the Ingersoll-Rand Company; Germaine Bousquet at the Columbia University Graduate School; Bob Damon for the Texas Company; Bill Deane for Combustion Engineering and Superheater, Inc.; Al Geisler for the Nedick's, Inc.; Ralph Gittleman for the Arma Corporation (Brooklyn); Cliff Herdman for the Port of New York Authority; Al Kandel for the Mergenthaler Linotype Company (Brooklyn); Ed Margulies at the Cornell University College of Medicine; Bob Mayfield for the Arabian-American Oil Company; Dave Muhlenberg also for Aramco; Ken Murphy for Lummus Company; Ted Parsons for Gibbs and Cox, Inc.; Brad Schofield for Combustion Engineering and Superheater, Inc.; Herm Smotrich at Columbia University Graduate School; Ted Uhler for Aramco; Allen Zang for the American Bureau of Shipping; and Serej Zezulin at Howard, Needles, Tammen and Bergendoff, Consulting Engineers.

Because of space limitations in this section of The Review for July, news I have of classmates located in the rest of New York State, New Jersey, and Pennsylvania will have to wait until the November issue. So if you didn't make this copy, look in that issue, which comes out in the fall around the last of October or first of November. And, meanwhile, keep me informed about things that happen this summer.

Remember, mail all pertinent information about yourself—engagements, marriages, births, job changes, or anything interesting you may be doing or people you are meeting—to me. This column can only be as interesting as the news you give me. — STANLEY I. BUCHIN, Secretary, 150 Tryon Avenue, Englewood, N.J.



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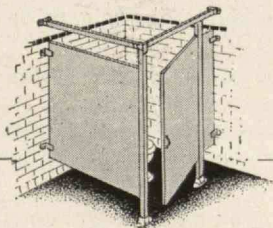
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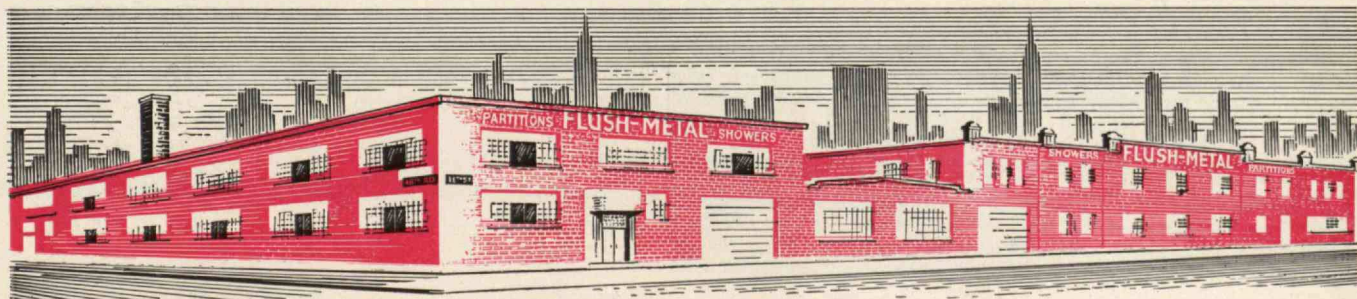


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